AGENDA

JUNE 16, 2026

REGULAR MEETING
CITY COUNCIL
CITY OF YUBA CITY

5:30 P.M. CLOSED SESSION
SUTTER ROOM/VIRTUAL

6:00 P.M. REGULAR MEETING
COUNCIL CHAMBERS/VIRTUAL

MAYOR	• Marc Boomgaarden
VICE-MAYOR	• Michael Pasquale
COUNCILMEMBER	• Toni Cole
COUNCILMEMBER	• Wade Kirchner
COUNCILMEMBER	• Dave Shaw
CITY MANAGER	• Robert Bendorf
CITY ATTORNEY	• Shannon L. Chaffin

1201 Civic Center Blvd
Yuba City CA 95993

Wheelchair Accessible

*The City has adopted a Reasonable Accommodations Policy that provides a procedure for receiving and resolving requests for accommodation to participate in this meeting. Please visit yubacity.net ADA & Accessibility Resources page. If you need assistance in order to attend the City Council meeting, or if you require auxiliary aids or services, e.g., hearing aids or signing services to make a presentation to the City Council, the City is happy to help. Accommodations should be requested as early as possible as additional time may be required in order to provide the requested accommodation; 72 hours in advance is suggested. Please contact City offices at (530) 822-4817 or **(TTY: 530-822-4732)**, so such aids or services can be arranged. Requests may also be made by email at cityclerk@yubacity.net or citymanager@yubacity.net or mail City Clerk, 1201 Civic Center Blvd, Yuba City, CA 95993.*

AGENDA
REGULAR MEETING
CITY COUNCIL - CITY OF YUBA CITY
JUNE 16, 2026
5:30 P.M. CLOSED SESSION
SUTTER ROOM/VIRTUAL

6:00 P.M. REGULAR MEETING
COUNCIL CHAMBERS/VIRTUAL

Materials related to an item on this Agenda submitted to the Council after distribution of the agenda packet are available for public inspection in the City Clerk's office at 1201 Civic Center Blvd., Yuba City, during normal business hours. Such documents are also available on the City of Yuba City's website at www.yubacity.net, subject to staff's availability to post the documents before the meeting.

The Council Chambers will be open for public attendance and participation. The meeting will also be live streamed for public viewing, but not participation, at the following link: https://yubacity-net.zoom.us/j/86348582123?pwd=Isz5Kxk1L1v3msRyEcRXz34xgMak9e.1.
Emailed comments sent to cityclerk@yubacity.net at least 24 hours before the meeting will be distributed to the City Council prior to the meeting. Please identify the Agenda item(s) addressed by the comments.

Public Comment:
Any member of the public wishing to address the City Council on any item listed on the closed session agenda, if any, will have an opportunity to present testimony to the City Council in the Council Chamber prior to the City Council convening into closed session. Comments from the public will be limited to three minutes. No member of the public will be allowed to be present once the City Council convenes into closed session.

Closed Session

A. Liability Claim
Claimant: Jake Cartwright, Claim 26-22
Agency Claimed Against: City of Yuba City

B. CONFERENCE WITH LABOR NEGOTIATORS pursuant to Gov. Code section 54957.6.
Agency designated representatives: Gina Rowland, Chief Labor Negotiator
Employee Organizations: Public Employees' Union - Local 1/AFSCME 57, Police Officers' Association, Police First Level Managers, Police Mid-Managers

Regular Meeting

Call to Order

Roll Call

__ Mayor Boomgaarden
__ Vice-Mayor Pasquale
__ Councilmember Cole
__ Councilmember Kirchner
__ Councilmember Shaw

Invocation/Inspiration

Pledge of Allegiance to the Flag

City Attorney's Report on Closed Session Items, City Attorney Shannon Chaffin

Agenda Modifications

Public Communication

1. Appearance of Interested Citizens

You are welcome and encouraged to participate in this meeting. Public comment is taken on action items appearing on the Consent Calendar or Business Items on the Agenda when they are called. Public comment on any other items within the scope of the City's jurisdiction, including items not listed on the Agenda will be considered at this time. Public comment is limited to three minutes per speaker. Members of the public submitting written requests at least 24 hours prior to the meeting will be allotted five minutes to comment per speaker. Repetitive comments may be limited, and large groups are encouraged to select representatives to express the opinions of the group.

Consent Calendar

All matters listed under Consent Calendar are considered to be routine and can be enacted in one motion. There will be no separate discussion of these items prior to the time that Council votes on the motion unless members of the City Council request specific items to be discussed or removed from the Consent Calendar for individual action.

2. Minutes from the February 7, 2023 and June 2, 2026 Regular City Council Meeting

Recommendation: Approve the Minutes from February 7, 2023 and June 2, 2026 Regular City Council Meeting

3. Utilities 2026-2031 Rate Schedule and Ordinance Update

Recommendation: A. Adopt a Resolution establishing the utility service rate schedule for Fiscal Years 26/27 through 30/31, inclusive, in alignment with the Proposition 218 maximums

B. Adopt an Ordinance of the City Council of the City of Yuba City amending Chapter 5 (Wastewater Collection and Treatment) and Chapter 6 (Water System) of Title 6 of the Yuba City Municipal Code by title only and waive the second reading

4. Construction Contingency Authorization

Recommendation: Adopt a Resolution which takes the following actions:

A. Authorizes previously identified contingency amounts for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26), 2026 Wastewater Collections Improvements Project (Contract No. 23-08), DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02), and Citywide Sign

Upgrades Project (Contract No. 1315-CON-26) capital improvement projects

B. Authorizes the Public Works Director to modify the scope of work through change order(s) to the contracts for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26), 2026 Wastewater Collections Improvements Project (Contract No. 23-08), DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02), and Citywide Sign Upgrades Project (Contract No. 1315-CON-26) capital improvement projects

5. WWTF Septage Receiving Station Project Contract No. 25-04 (Plans & Specifications)

Recommendation: Adopt a Resolution adopting a CEQA Class 1 Categorical Exemption, approving the plans and specifications, and authorizing advertisement for bids for the WWTF Septage Receiving Station Project

6. Purchasing Policies and Procedures Manual Revisions

Recommendation: Adopt a Resolution approving the revised City of Yuba City Purchasing Policies and Procedures Manual and authorize the City Manager to implement and administer the updated policies and procedures

7. Approve Tenant Commissioner Appointment to the Regional Housing Authority

Recommendation: Approve the re-appointment of Suzanne Gallaty as the Tenant Commissioner to the Regional Authority of Sutter and Nevada Counties Board of Commissioners

8. Appointments to City of Yuba City Personnel Board

Recommendation: Approve the Mayor's Recommendation of one (1) Appointment and two (2) Reappointments to the Personnel Board

9. Public Comment Period of City Council Meetings

Recommendation: Adopt a Resolution establishing a fifteen-minute aggregate limit for public comment periods during City Council Meetings

Business Items

10. WWTF Outfall Diffuser Project – Bid Phase Services Amendment

Recommendation: Adopt a Resolution that takes the following actions:

A. Authorizes Amendment No. 6 to the Professional Services Agreement with CH2M Hill Engineers, Inc., dated July 18, 2018, to complete Bid Phase Services activities for the Wastewater Treatment Facility Effluent Discharge Outfall Diffuser Project and authorizes the City Manager to execute the amendment following approval as to form by the City Attorney, with the finding that it is in the best interest of the City

B. Authorizes the Finance Director to make a supplemental appropriation and related transfers in the amount of

$613,883 from unallocated wastewater funds to Account No. 981156

11. General Fund Contingencies Policy F-1 and General Fund Reserves Policy F-2

Recommendation: Approve General Fund Contingencies Policy F-1 and General Fund Reserves Policy F-2

12. Adoption of the Fiscal Year 2026-27 Operating Budget and Capital Improvement Plan

Recommendation: A. Adopt a Resolution approving the proposed Fiscal Year 2026-27 Operating Budget

B. Adopt a Resolution approving the proposed Fiscal Year 2026-27 Capital Improvement Plan

13. Approve the City's Amended Salary Schedule

Recommendation:

Adopt a Resolution taking the following actions effective July 11, 2026:

A. Amending the Salary Schedule to:

1. Adjust the salary for City Manager from $280,000 to $280,010 annually to address a rounding issue in the City's new HRIS/Payroll system.
2. Abolish the titles of Police Records Clerk – Lead and Administrative Manager.
3. Change the title for Parks and Grounds Superintendent to Park Maintenance Superintendent.
4. Adjust the salary for Police Services Analyst from $5,190 - $6,308/monthly to $5,854 - $7,116/monthly.
5. Add the following new salary ranges:

    a. Deputy City Manager - $11,310 to $13,748/monthly
    b. GIS Analyst - $7,150 to $8,689/monthly
    c. Human Resources Analyst I - $6,350 to $7,718/monthly
    d. Human Resources Analyst II - $6,985 to $8,490/monthly
    e. Human Resources Manager - $9,574 to $11,638/monthly

B. Approve the City's Salary Schedule in its entirety as amended.

14. Community Sponsorship Request - Walk to End Alzheimer's

Recommendation: Consider the sponsorship request from the Alzheimer's Association, and if approved: Adopt a Resolution approving the sponsorship request in the amount of $2,500 for the Walk to End Alzheimer's in Yuba City on September 5, 2026

Future Agenda Items

15. Future Agenda Items

Reports and Communications

The following reports and communication items are provided for the Council's information. No action can be taken on items under this section unless the Council agrees to include it on a subsequent agenda

16. City Manager's Report

17. City Council Reports

Adjournment

Public Communication

Members of the public may address the City Council on items of interest that are within the City's jurisdiction. Individuals addressing general comments are encouraged to limit their statements.

Procedure

You are welcome and encouraged to participate in this meeting. Complete a Speaker Card located in the lobby and give to the Clerk, public comment is taken on action items appearing on the Consent Calendar or Business Items on the Agenda when they are called. Public comment on any other items within the scope of the City's jurisdiction, including items not listed on the Agenda, will be considered at this time.

When a matter is announced, wait to be recognized by the Mayor to provide your comments to the Council. Comments should begin by providing your name and place of residence. A three minute limit is requested when addressing Council.

Request for additional time to address Council

Members of the public submitting written requests at least *24 hours* prior to the meeting will be allotted 5 minutes to comment per speaker. Repetitive comments may be limited, and large groups are encouraged to select representatives to express the opinions of the group.

Procedure

When requesting to comment, please indicate your name and the topic and mail to:

City of Yuba City
Attn: City Clerk
1201 Civic Center Blvd
Yuba City CA 95993

Or email to:

Ciara Wakefield, City Clerk
cityclerk@yubacity.net

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Administration Department
Presentation By: Ciara Wakefield, City Clerk

Summary

Subject: Minutes from the February 7, 2023 and June 2, 2026 Regular City Council Meeting

Recommendation: Approve the Minutes from February 7, 2023 and June 2, 2026 Regular City Council Meeting

Fiscal Impact: None

Attachments:
1. 02-07-2023 - Regular Meeting Minutes (DRAFT) - AMENDED 06-16-2026
2. 06-02-2026 Regular Meeting Minutes (DRAFT)

Prepared By:
Ciara Wakefield
City Clerk

Submitted By:
Robert Bendorf
City Manager

ATTACHMENT 1

MINUTES (Amended 06/16/2026)
REGULAR MEETING
CITY COUNCIL - CITY OF YUBA CITY
FEBRUARY 7, 2023
5:30 P.M. CLOSED SESSION
SUTTER ROOM/VIRTUAL

6:00 P.M. REGULAR
MEETING COUNCIL
CHAMBERS/VIRTUAL

Call to Order

The Closed Session Meeting of the City Council was called to order by Mayor Kirchner at 5:30 PM

Roll Call

Present: Mayor Kirchner and Councilmembers Boomgaarden, Harris, Pasquale and Shaw

Absent: None

Closed Session

Conference with Legal Counsel—Existing Litigation per Govt. Code §54956.9;
Diana Barrett v. City of Yuba City, et.al. Superior Ct. CVCS20-0001102; Ct. of Appeal C097139

No public comment received

Regular Meeting

Call to Order

The Regular Meeting of the City Council called to order by Mayor Kirchner at 6:00 PM

Roll Call

Present: Mayor Kirchner and Councilmembers Boomgaarden, Harris, Pasquale and Shaw

Absent: None

Invocation/Inspiration

Dave Shaw, Councilmember

Pledge of Allegiance to the Flag

Brad McIntire, Community Services Director

City Attorney's Report on Closed Session

No reportable action

Agenda Modifications/Approval of Agenda

Staff recommended that Item 5 (Henson Ranch Estates) be continued to a future meeting

Ceremonial Presentations

1. Mayor's Pin Presentation

Councilmember Shaw presented the Mayor's pin to Mayor Kirchner

Public Communication

2. Appearance of Interested Citizens

Heather Esemann spoke

Consent Calendar

Councilmember Shaw moved and Councilmember Pasquale seconded the motion to approve Consent Calendar items 3-4 and 6-14 (excluding item 5):

3. Minutes from the January 17 and 26, 2023 meetings

Approve the minutes from the January 17 and 26, 2023 meetings

4. Annual Community Facilities District Report

Note and file

Item 5 was be continued to a future meeting

~~**5. Henson Ranch Estates – Phase 1 Subdivision (Subdivision Agreement and Final Map Approval)**~~

~~Presented by: Ben Moody, Development Services & Public Works Director~~

~~Action: Adopt a Resolution approving the execution of a Subdivision Agreement with YC Hooper Ventures, LLC, A California Limited Liability Company providing for public improvements associated with the Henson Ranch Estates – Phase 1 Subdivision Map, approving the Henson Ranch Estates – Phase 1 Subdivision Final Map, accepting dedication of rights-of-way and easements shown thereon and authorizing the filing of the map. (Subdivision is located north of North Colusa Frontage Road, East of Hooper Road, and west of El Margarita Road)~~

6. Local Highway Safety Improvement Program Project Awards

A. Adopt **Resolution 23-176** Authorizing the Finance Director to make a supplemental appropriation of $3,164,260 in Highway Safety Improvement Program grant funding to Account No. 921314 (Citywide Signal Hardware Upgrades), 921315 (Citywide Sign Upgrades & Audit), 921316 (Ped Safety Crosswalk Upgrades), 921317 (SHS Signal Hardware Upgrades), and 921318 (Local Roadway Safety Plan)

B. Authorize the Finance Director to transfer $23,840 from Account No. 911253 (2018 Safe Routes to School Plan) to Account No. 911314 (Citywide Signal Hardware Upgrades) and $8,000 from Account No. 921253 (2018 Safe Routes to School Plan) to Account No. 921318 (Local Roadway Safety Plan)

7. Proposition 1 Integrated Regional Water Management Round 1 Grant Projects - Contract Amendment

Adopt **Resolution 23-011** to award Amendment No. 1 to the Professional Services Agreement with West Yost and Associates, Inc. to initiate additional data collection activities for updating the modeling of Gilsizer Slough for the Prop 1 Integrated Regional Water Management Projects

8. Authorization to submit Department of Resources Recycling and Recovery (CalRecycle) Grant Applications for Illegal Disposal Site Abatement

Adopt **Resolution 23-012** of the City Council of the City of Yuba City authorizing the Public Works and Development Services Director, or designee, to submit and administer CalRecycle grant applications and projects for a period of five years on behalf of the City

9. Request to establish Planned Development (PD) 15 and approval of a Development Agreement for the Chima Ranch Tentative Subdivision Map SM 22- 07

A. Adopt **Ordinance 001-23** of the City Council of the City of Yuba City approving Planned Development (PD) No. 15 for the Chima Ranch Subdivision (SM 22-07) located in the southwest portion of the City along the west side of Sanbon Road and immediately west of the intersection of Pebble Beach Drive and Sanborn Road (Assessor's Parcels 65-020-009 and 65-020-010) and an associated Mitigated Negative Declaration, by title only and waive the second reading

B. Adopt Uncodified **Ordinance 002-23** of the City Council of the City of Yuba City approving a development agreement for the Chima Ranch Subdivision Map (SM 22-07) between the City of Yuba City and Interwest Homes Corporation, a California corporation, to develop 82 single-family lots on 14.86 acres located in the southwest portion of the City along the west side of Sanborn Road immediately west of the intersection of Pebble Beach Drive and Sanborn Road, Assessor's Parcels 65-020-009 and 65-020- 010, by title only and waive the second reading

10. Consideration of Rezone (RZ) 22-08: Spirit Drive Parcel Map

Adopt **Ordinance 003-23** of the City Council of the City of Yuba City to adopt Rezone 22-08 for the Spirit Drive Parcel Map project located at the southeast corner of State Route 20 (Colusa Highway) and El Margarita Road (Assessor's Parcel Number: 63- 010-141) by title only and waive the second reading

11. Consideration of Planned Development (PD) 17: Nestory Park Self Storage

The Clerk received written public comment from Terry Farmer prior to the meeting. Copies of the letter were distributed to Council in advance and were made available for the public in the lobby

Adopt **Ordinance 004-23** of the City Council of the City of Yuba City approving a Planned Development (PD) 17 for Nestory Park Self Storage located along the north side of Winship Road approximately 430 feet east of the intersection of Winship Road and Garden Highway (APNs: 53-500-008 and 53-500-035) and an associated Mitigated Negative Declaration by title only and waive the second reading

12. Approve Regional Appointments to the Feather River Air Quality Management District (FRAQMD) Board of Directors for 2023

Approve the Appointment of Councilmembers Jeramy Chapdelaine (Live Oak) and Angela Teter (Wheatland) to serve as Alternate Directors on the FRAQMD Board of Directors

13. Updates to the City of Yuba City Conflict of Interest Code

Adopt **Resolution 23-013** Amending the City of Yuba City Conflict of Interest Code and list of Designated Positions

14. Emergency Purchase of Four (4) Ford Three-Quarter Ton Pickups

Adopt **Resolution 23-014** to award the purchase of four (4) Ford three- quarter ton pickups to Geweke Ford of Yuba City, CA, in the not- to-exceed amount of $161,000.00 and authorizing the purchase of necessary equipment and decals, estimated at $19,000.00, in order to place the vehicles in service

The motion was passed with a unanimous vote

Business Items

15. Utilities Rate Study 2024 Award

Councilmember Shaw moved and Vice-Mayor Harris seconded the motion to:

Adopt **Resolution 23-015** awarding the Utilities Rate Study 2024 to Black & Veatch Management Consulting, LLC of Los Angeles, CA in the amount of $159,705 plus a contingency of $32,000, with the finding that it is in the best interest of the City

The motion was passed with a unanimous vote

16. Consideration of General Plan Amendment (GPA) 22-05, the appeal of Rezone (RZ) 22-06, and a Categorical Exemption under CEQA Guideline Section 15301: Gorsi Medical Office Rezone

[Councilmember Pasquale recused himself]

Mayor Kirchner opened a Public Hearing

Dr. Gorsi spoke
Andrew Fisher spoke
John Buckland spoke
Lauren Halli Burton spoke

Mayor Kirchner closed the Public Hearing

Councilmember Shaw moved and Vice-Mayor Harris seconded the motion to:

Continue the matter regarding General Plan Amendment 22-05, the appeal of Rezone 22-06, and the associated Environmental determination for the project, Gorsi Medical Office Rezone, at 467 Gray Avenue (Assessor's Parcel Number: 52-122-011) to February 21, 2023, with direction to staff to return with a resolution for a denial

The motion was passed with 4 votes (Pasquale recused)

17. Future Agenda Items

No suggestions

Reports and Communications

18. City Manager's Report

19. City Council Reports

- Councilmember Boomgaarden
- Councilmember Pasquale
- Councilmember Shaw
- Vice Mayor Harris
- Mayor Kirchner

Adjournment

Mayor Kirchner adjourned the Regular Meeting of the City Council in memory of former Yuba City Police Department employee, Dulce Ward, at 7:37 PM

_____
Marc Boomgaarden, Mayor
06/16/2026

ATTEST:

_____
Ciara Wakefield, City Clerk
06/160/2026

ATTACHMENT 2

MINUTES (DRAFT)
REGULAR MEETING
CITY COUNCIL - CITY OF YUBA CITY

JUNE 2, 2026

5:00 P.M. CLOSED SESSION
SUTTER ROOM/VIRTUAL

6:00 P.M. REGULAR MEETING
COUNCIL CHAMBERS/VIRTUAL

Closed Session

Call to Order

The Closed Session Meeting of the City Council was called to order by Mayor Boomgaarden at 5:03 PM

Roll Call:

Present: Mayor Boomgaarden and Councilmembers Cole, Kirchner, Shaw, and Pasquale

Absent: None

Closed Session

A. Conference with Legal Counsel – Existing Litigation (Government Code, § 54956.9(d)(1))
Name of Case(s): Larry Johnson
Claim No.1396610353

B. Liability Claim
Claimant: Timothy Blakenship, Claim 26-21
Agency Claimed Against: City of Yuba City

C. CONFERENCE WITH LABOR NEGOTIATORS pursuant to Gov. Code section 54957.6.
Agency designated representatives: Gina Rowland, Chief Labor Negotiator
Employee Organizations: Public Employees' Union - Local 1/AFSCME 57, First Level Managers, Mid-Managers, Firefighters' Local 3793, Fire Management, Police Officers' Association, Police First Level Managers, Police Mid-Managers

No public comment received

Regular Meeting

Call to Order

The Regular Meeting of the City Council was called to order by Mayor Boomgaarden at 6:00 PM

Roll Call:

Present: Mayor Boomgaarden and Councilmembers Cole, Kirchner, Shaw, and Pasquale

Absent: None

Invocation/Inspiration

Chris Finchum, YCPD Chaplain

Pledge of Allegiance to the Flag

Tawny Dotson

City Attorney's Report on Closed Session Items

Shannon Chaffin, City Attorney:

Item B – Blankenship (Claim 26-21): Authorized Notice of Rejection

Items A & C – No reportable action

Agenda Modifications

- Item 15 (Utilities 2026-2031 Rate Schedule and Ordinance Update) was continued to the next regular meeting of the City Council on June 16, 2026
- Due to recusals, Item 10 (LLMD 5-6) was pulled from Consent and voted on separately

Ceremonial Presentations

1. Recognition of Police Volunteers in Policing Proclamation

Mayor Boomgaarden presented a proclamation to Police Sergeant Gwinnup and YCPD Volunteers

2. Right to Start Proclamation

Mayor Boomgaarden presented a proclamation to Cameron Law, CA Coalition Manager and Ambassador for Right to Start

3. Dr. Tawny Dotson Distinguished Leadership and Service Proclamation

Mayor Boomgaarden presented a proclamation to Dr. Tawny Dotson, outgoing Yuba College President

Public Communication

4. Appearance of Interested Citizens

Tony Farley spoke

Consent Calendar

[Item 10 was pulled from the Consent Calendar for separate discussion]

Due to real property interest, Mayor Boomgaarden acknowledged the following recusals:

Item 8 (LLMD 1) – Boomgaarden & Pasquale

Item 9 (LLMD 2-4) – Boomgaarden & Shaw

Item 11 (RSLMD) – Kirchner

Councilmember Cole moved and Councilmember Kirchner seconded the motion to approve Consent Calendar items 5-9 & 11-17:

5. Minutes from the May 19th, 2026 Regular City Council Meeting

Approve the Minutes from the May 19th, 2026 Regular City Council Meeting

Item passed with 5 votes

6. Special Investigation Unit Task Force MOU

A. Approve the Memorandum of Understanding (MOU) between the City of Yuba City, Sutter County Sheriff's Department, Sutter County Probation Department, and the Sutter County District Attorney's Office for the establishment of a Special Investigations Unit (SIU) task force

B. Authorize the Chief of Police to execute the agreement on behalf of the City and approve the MOU effective date of July 1, 2026

Item passed with 5 votes

7. 2026 City Hall Holiday Closure

Adopt **Resolution 26-063** authorizing the closure of City Hall from November 23, 2026 through Friday, November 27, 2026, Monday, December 21, 2026 through Friday, December 25, 2026, and Friday, January 1, 2027

Item passed with 5 votes

8. Yuba City Landscape District No. 1 - Annual Levy Initiation

Adopt **Resolution 26-064** describing improvements and ordering the Engineer of Work to file a report regarding Yuba City Landscape Maintenance District No. 1, to continue the Maintenance Districts pursuant to the Landscaping and Lighting Act of 1972

Item passed with 3 votes [Recused: Boomgaarden & Pasquale]

9. Yuba City Lighting and Landscape District Nos. 2-4 - Annual Levy Initiation

Adopt **Resolution 26-065** describing improvements and ordering the Engineer of Work to file reports regarding Yuba City Lighting and Landscape Maintenance District Nos. 2, 3, and 4, to continue the Maintenance Districts pursuant to the Landscaping and Lighting Act of 1972

Item passed with 3 votes [Recused: Boomgaarden & Shaw]

[Item 10 pulled for separate discussion/vote]

~~**10. Yuba City Lighting and Landscape District Nos. 5-6 - Annual Levy Initiation**~~

~~Action: Adopt a Resolution describing improvements and ordering the~~

~~Engineer of Work to file reports regarding Yuba City Lighting and Landscape Maintenance District Nos. 5-6, to continue the Maintenance Districts pursuant to the Landscaping and Lighting Act of 1972~~

11. Yuba City Residential Street Light Maintenance Districts - Annual Levy Initiation

Adopt **Resolution 26-067** describing improvements and ordering the Engineer of Work to file a report regarding Yuba City Residential Street Light Maintenance Districts, to continue the Maintenance Districts pursuant to the Benefit Assessment Act of 1982 and Article XIIID of the California Constitution

Item passed with 4 votes [Recused: Kirchner]

12. Prop 1 IRWM Grant Project #4 - North Gilsizer Detention Basin Improvements

Adopt **Resolution 26-068** that authorizes the purchase of a Continuous Deflective System Unit (Model #CDS5678-10-C) from Contech Engineered Solutions, LLC in the amount of $136,750.00, with a finding that it is in the best interest of the City, and authorizing a procurement contingency of $13,675.00

Item passed with 5 votes

13. Market Street Traffic Calming and Safety Improvements (Award Contract Agreement)

Adopt **Resolution 26-069** which takes the following actions:

A. Awards the construction contract to Quimu Contracting, Inc. of Dixon, California in the amount of their total bid of $277,334.00, authorizes the City Manager to execute the contract on behalf of the City subject to review and approval as to legal form by the City Attorney, and authorizes a project contingency of $41,600.10 (15%)

B. Finds that CEQA was previously assessed for the project, a Class 1 Categorical Exemption (SCH#2026010750) was adopted, award of this construction contract is within the scope of the previously approved project, and no further environmental review is required under CEQA

C. Authorizes the Finance Director to make the following budget adjustments:
    1. Transfer $60,243.84 from Account No. 911051 to Account No. 911343
    2. Increase appropriations in Account No. 951343 to $207,450.00

Item passed with 5 votes

14. Citywide Signal Hardware Upgrades (Construction Contingency Increase)

Adopt **Resolution 26-070** which takes the following actions:

A. Authorizes contingency amounts of $156,739.17 for CIP Account No. 1314 and $80,784.71 for CIP Account No. 1317

B. Authorizes the Finance Director to increase appropriations in 911314-65501 to $121,954.21 utilizing unallocated Transportation Development Act (TDA) funds and increase appropriations in 951314-65501 to $695,586.13

C. Authorizes the Finance Director to decrease appropriations in 921317-65501 to $0.00 and increase appropriations in 951317-65501 to $299,297.46

Item approved with 5 votes

15. Utilities 2026-2031 Rate Schedule and Ordinance Update

Continue the item to the next regular meeting of the City Council (June 16, 2026)

Item passed with 5 votes

16. Fiscal Year 2026-2027 Citywide Sole Source and Professional Services Purchases

Adopt **Resolution 26-071** pre-authorizing the City Manager or designee to perform citywide sole source and professional service purchases from July 1, 2026 through June 30, 2027, for specified items based on each purchase recommendation being in the best interest of the City

Item passed with 5 votes

17. SB 1 Road Maintenance and Rehabilitation Account Project List 2026-27

Adopt **Resolution 26-072** adopting a list of projects for Fiscal Year 2026-27 to be funded by Senate Bill 1: Road Repair and Accountability Act of 2017

Item passed with 5 votes

Business Items

[Item 10 was pulled from Consent for separate vote/discussion]

10. Yuba City Lighting and Landscape District Nos. 5-6 - Annual Levy Initiation

Due to real property interests by 4 Councilmembers (Boomgaarden, Kirchner, Pasquale, & Shaw) in LLMD Districts 5-6, vote participation was determined by a random draw in order to form a majority. Vice-Mayor Pasquale and Mayor Boomgaarden were selected to participate in the vote.

Vice-Mayor Pasquale moved and Councilmember Cole seconded the motion to:

Adopt **Resolution 26-066** describing improvements and ordering the Engineer of Work to file reports regarding Yuba City Lighting and Landscape Maintenance District Nos. 5-6, to continue the Maintenance Districts pursuant to the Landscaping and Lighting Act of 1972

The motion was passed with 3 votes [Recused: Shaw & Kirchner]

18. Status of Vacancies and Recruitment and Retention Efforts for FY 25-26 in Compliance with AB 2561

Tony Farley spoke

No council action – Information item only

Receive the attached report from City staff on the status of vacancies and recruitment and retention efforts in compliance with AB 2561; and conduct a Public Hearing as required by Government Code Section 3502.3

19. 2025 Urban Water Management Plan and Water Shortage Contingency Plan

Mayor Boomgaarden opened a Public Hearing

No public comment

Mayor Boomgaarden closed the Public Hearing

Vice-Mayor Pasquale moved and Councilmember Shaw seconded the motion to:

B. Adopt **Resolution 26-073** adopting the 2025 Urban Water Management Plan and authorizing the Utilities Director to submit the Plan to the California Department of Water Resources

C. Adopt **Resolution 26-074** adopting the Water Shortage Contingency Plan and authorizing the Utilities Director to submit the Plan to the California Department of Water Resources

The motion was passed unanimously

20. Policy Governing Remote Participation and Enhancement of Public Participation in City Council and Commission Meetings to implement Senate Bill No. 707

Tony Farley spoke

Councilmember Kirchner moved and Councilmember Cole seconded the motion to:

Adopt **Resolution 26-075** to Adopt a Policy Entitled "Policy Governing Remote Participation and Enhancement of Public Participation in City Council and Commission Meetings" to implement Senate Bill No. 707

The motion was passed unanimously

Future Agenda Items

21. Future Agenda Items

Vice-Mayor Pasquale requested the Plumas Street Crosswalk Mural Project be discussed at a future meeting

Reports and Communications

22. City Manager's Report

23. City Council Reports

- Councilmember Cole
- Councilmember Kirchner
- Councilmember Shaw
- Vice-Mayor Pasquale
- Mayor Boomgaarden

Adjournment

Mayor Boomgaarden adjourned the Regular Meeting of the City Council at 7:04 PM

_____

Marc Boomgaarden, Mayor

ATTEST:

_____

Savannah Ford, Deputy City Clerk

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Utilities Department
Presentation By: Scarlett Harris, Utilities Administrative Manager

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Summary

Subject: Utilities 2026-2031 Rate Schedule and Ordinance Update

Recommendation: A. Adopt a Resolution establishing the utility service rate schedule for Fiscal Years 26/27 through 30/31, inclusive, in alignment with the Proposition 218 maximums

B. Adopt an Ordinance of the City Council of the City of Yuba City amending Chapter 5 (Wastewater Collection and Treatment) and Chapter 6 (Water System) of Title 6 of the Yuba City Municipal Code by title only and waive the second reading

Fiscal Impact: If proposed utility rate schedules are approved, the water and wastewater revenue changes would adequately fund projected operations, maintenance, and capital improvement for the upcoming five (5) fiscal years

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Purpose:

To adopt a five-year utility service rate schedule, aligning with the results of the Proposition 218 process and water and wastewater rate studies, and update the utilities chapters of the Municipal Code.

Strategic Focus Area:

This item addresses Council's strategic focus of *Fiscal Responsibility* and *Infrastructure* by providing the necessary cost recovery to support the services, operations, maintenance, labor, and capital improvement of the City's water and wastewater systems.

Background:

The City's utilities service rates and fees are intended to fully recuperate costs to deliver water and wastewater services and the operations and infrastructure of their associated systems via self-funded enterprise funds. In order to develop and propose rate maximums for a five-year projection, local agencies are required to provide a documentary record as evidence of the fiscal requirements per California statute.

Utilities rate studies were prepared by Black & Veatch Management Company, LLC of Los Angeles, CA to evaluate Fiscal Years 26/27 through 30/31, in coordination with City staff and evaluated by a third-party consultant, and were adopted by Council on March 17, 2026. At that time, the City Council

directed staff to initiate a Proposition 218 protest process as legally required to adjust rates for all water and wastewater customer classes.

The Proposition 218 protest hearing was conducted at the regularly scheduled City Council meeting on May 19, 2026. The City Clerk tabulated the number of written protest ballots received, which totaled less than 50% of the total affected parcels. Therefore, the rate maximums recommended in the utilities rate studies and enumerated on the Proposition 218 Notice were adopted.

Analysis:

2026-2031 Utilities Rate Schedule

The fee schedule recommended by the utilities rate studies and approved via the Proposition 218 process set a maximum limit on the amount that can be charged; the City Council retains the authority to adopt reduced rates as appropriate to match actual costs and revenues received. At this time, Utilities Department staff recommend that the five-year rate schedule prepared in the rate studies be adopted to go into effect each November 1st, which customers will receive on their January bills (Attachment 1). This schedule provides the reliable revenue stream to fund the identified critical capital and operational needs and is based on current projections and industry conditions.

However, City staff will continuously monitor the enterprise fund revenues and expenditures throughout the five-year period to ensure that rates are appropriately set and could return in later years to recommend amending the rate schedule if warranted. Staff will continue to pursue alternative grant and loan funding from state and federal agencies for large capital infrastructure projects and other major expenditures, which could offset the revenue required from service rates.

The Resolution does not include a rate schedule for the Significant Industrial User customer class at this time, although rate maximums were adopted with Proposition 218. The 2026 wastewater rate study updated the methodology for this user class and reevaluated its cost share of capital improvement and debt service. The City is working with these customers to finalize the rate schedule in recognition of the significant changes to existing rates and the usage data gathered since the study's completion. Utilities staff will return to Council with a recommendation for the industrial rate schedule and any necessary agreements at a future meeting prior to the November rate implementation.

Ordinance Update

The recommended water and wastewater Ordinance (Attachment 2), as introduced on May 19, 2026, captures several changes necessary to accurately represent the service rates and current City structure and to meet regulatory requirements. These changes are summarized below:

Title 6 Chapter 5 – Wastewater Collection and Treatment

- Remove the Proposition 218 limits and service fee tables, as they are adopted and recorded via Resolution and the City's fee schedule
- Update responsibilities to add the recreated Utilities Director and reduce the responsibilities of the Public Works Director
- Update the industrial user service fee information to match the changes in calculation methodology
- Update the septage hauler fee information to match changes to rate determination

Title 6 Chapter 6 – Water System

- Remove the Proposition 218 limits and service fee tables, as they are adopted and recorded via Resolution and the City's fee schedule
- Update responsibilities to add the recreated Utilities Director and reduce the responsibilities of the Public Works Director
- Update backflow prevention requirements for landscape-only connections
- Add regulations for California AB 1572 compliance to prohibit commercial, industrial, and institutional nonfunctional turf irrigation

Fiscal Impact:

The water and wastewater revenue changes and proposed rate schedules would adequately fund projected operations, maintenance, and capital improvement for the next five (5) fiscal years. Implementation for the Year 1 rates is scheduled for November 1, 2026, with customers billed and revenues received with the updated rates in January 2027. This timeline has been incorporated into the proposed Fiscal Year 26/27 operating and Capital Improvement Program budgets for water and wastewater.

Alternatives:

1. Direct staff to modify the recommended rate schedule amounts or implementation dates for water and/or wastewater.
2. Do not adopt new rate schedules and keep water and wastewater service rates at the current levels. This would prevent the City from meeting the State Revolving Fund loan approval timeline for construction of the mandated Outfall Diffuser Replacement Project, in addition to underfunding the projected overall water and wastewater enterprise fund needs.

Recommendation:

A. Adopt a Resolution establishing the utility service rate schedule for Fiscal Years 26/27 through 30/31, inclusive, in alignment with the Proposition 218 maximums.

B. Adopt an Ordinance of the City Council of the City of Yuba City amending Chapter 5 (Wastewater Collection and Treatment) and Chapter 6 (Water System) of Title 6 of the Yuba City Municipal Code by title only and waive the second reading.

Attachments:

1. Attachment 1 Resolution - Utilities Rate Schedule 2026-2031
2. Attachment 2 Ordinance - Utilities 2026 Rate Study Updates
3. Ordinance Exhibit A - CHAPTER_5.___WASTEWATER_COLLECTION_AND_TREATMENT
4. Ordinance Exhibit B - CHAPTER_6.___WATER_SYSTEM

Prepared By:	Submitted By:
Scarlett O. Harris	Robert Bendorf
Utilities Administrative Manager	City Manager

ATTACHMENT 1

RESOLUTION NO. 26-_____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY ESTABLISHING THE WATER AND WASTEWATER RATE SCHEDULES FOR FISCAL YEARS 26/27 THROUGH 30/31, INCLUSIVE

WHEREAS, the City Council adopted Water and Wastewater Rate Studies and initiated a Proposition 218 process to establish the recommended utility service rate maximums on March 17, 2026; and,

WHEREAS, pursuant to California Government Code 53756, a protest public hearing took place on May 19, 2026, in which the City Clerk received and tabulated the protests and determined that there was not a majority protest of the proposed water and wastewater service rate adjustments; and,

WHEREAS, Chapter 5 (Wastewater Collection and Treatment) and Chapter 6 (Water System) of Title 6 of the Yuba City Municipal Code provide the City Council with the authority to set utilities service rates by Resolution within the maximums established through the Proposition 218 process.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Yuba City as follows:

Section 1. The water utility service rate schedule for Fiscal Years 26/27 through 30/31, inclusive, shall be as follows:

	HCF Included	Year 1 Nov 1, 2026	Year 2 Nov 1, 2027	Year 3 Nov 1, 2028	Year 4 Nov 1, 2029	Year 5 Nov 1, 2030
Base Rate						
1” & less	15	$50.67	$57.76	$60.65	$63.68	$65.59
1.5”	30	$93.56	$106.65	$111.99	$117.59	$121.11
2”	60	$179.34	$204.45	$214.67	$225.41	$232.17
3”	240	$694.06	$791.23	$830.79	$872.33	$898.50
4”	480	$1,380.34	$1,573.59	$1,652.27	$1,734.89	$1,786.93
6”	900	$2,581.34	$2,942.72	$3,089.86	$3,244.35	$3,341.68
8”	2,100	$6,012.76	$6,854.54	$7,197.27	$7,557.14	$7,783.85
Commodity Charges						
All ($/HCF)		$2.36	$2.68	$2.82	$2.96	$3.05

Section 2. The wastewater utility service rate schedule for Fiscal Years 26/27 through 30/31, inclusive, shall be as follows:

	Year 1 Nov 1, 2026	Year 2 Nov 1, 2027	Year 3 Nov 1, 2028	Year 4 Nov 1, 2029	Year 5 Nov 1, 2030
Residential					
Single Family*	$67.28	$77.37	$82.78	$88.58	$92.56
Multi Family	$53.82	$61.89	$66.23	$70.86	$74.05
Commercial					

Base Rate	$67.28	$77.37	$82.78	$88.58	$92.56
C1 ($/HCF)	$3.89	$4.47	$4.78	$5.12	$5.35
C2 ($/HCF)	$4.41	$5.07	$5.42	$5.80	$6.07
C3 ($/HCF)	$7.04	$8.09	$8.66	$9.26	$9.68
Schools					
($/ADA)	$31.31	$36.00	$38.52	$41.22	$43.07

*Includes Stonegate customers

Section 3. These rates shall go into effect each November 1st as scheduled unless superseded or amended by future Council Resolution. This resolution shall become effective after the 30th day after adoption.

The foregoing Resolution was duly and regularly introduced, passed and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____
Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY:

_____
Shannon Chaffin, City Attorney
Aleshire & Wynder, LLP

ATTACHMENT 2

ORDINANCE NO. _____

ORDINANCE OF THE CITY COUNCIL OF THE CITY OF YUBA CITY AMENDING CHAPTER 5 (WASTEWATER COLLECTION AND TREATMENT) AND CHAPTER 6 (WATER SYSTEM) OF TITLE 6 OF THE YUBA CITY MUNICIPAL CODE

WHEREAS, the City Council of Yuba City ("City") is authorized by the California Constitution, Article XI, Section 7 to make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws; and

WHEREAS, the City Council has adopted the Yuba City Municipal Code, which it periodically updates to protect the public health, safety, and welfare; and

WHEREAS, the City Council adopted water and wastewater rate studies and initiated a Proposition 218 protest process on March 17, 2026 in order to secure the necessary service rate revenue to fund critical operations, maintenance, debt service, and capital infrastructure improvements for the water and wastewater systems; and

WHEREAS, in accordance with Proposition 218, a protest public hearing took place on May 19, 2026, in which the City Clerk received and tabulated the protests and determined that there was not a majority protest of the proposed water and wastewater rate adjustments; and

WHEREAS, City Council desires to update and amend the Yuba City Municipal Code Title 6 Chapter 5 (Wastewater Collection and Treatment) and Chapter 6 (Water System) in order to capture the 2026 Proposition 218 rate maximums and user class changes, update the roles and responsibilities associated with the Utilities Director and Public Works Director, and meet new state water regulations in a fair manner that best addresses the public health, safety, and welfare.

NOW THEREFORE, the City Council of the City of Yuba City does ordain as follows:

Section 1.

The above recitals are all true and correct and are hereby adopted as findings.

Section 2.

The proposed ordinance was assessed in accordance with the authority and criteria contained in CEQA, the State CEQA Guidelines ("CEQA Guidelines"), and the environmental regulations of the City. The City Council finds and determines that the proposed ordinance is not a "project" for the purposes of CEQA and consistent with CEQA Guidelines Section 15378, as it promotes environmental conditions by providing improved processes and programs for the treatment and delivery of drinking water and the collection and treatment of wastewater, and will not result in direct or indirect substantial, adverse physical changes in the environment as compared to the current baseline. Additionally, the City Council finds and determines for the same reasons that even if the proposed ordinance were a project for the purposes of CEQA, there is no possibility that this project may have a significant adverse effect on the environment pursuant to CEQA Guidelines, Section 15061(b)(3). Therefore, the proposed ordinance is not subject to CEQA.

Section 3.

Chapter 5 (Wastewater Collection and Treatment) of Title 6 of the Yuba City Municipal Code hereby is amended to read in its entirety as set forth in Exhibit A.

Section 4.

Chapter 6 (Water System) of Title 6 of the Yuba City Municipal Code hereby is amended to read in its entirety as set forth in Exhibit B.

Section 5.

If any section, subsection, sentence, clause, phrase, or portion of this ordinance is, for any reason, held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have adopted this ordinance and each section, subsection, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases, or portions thereof may be declared invalid or unconstitutional.

Section 6.

This Ordinance shall take effect and be in full force and effect from and after thirty (30) calendar days after its final passage and adoption. Within fifteen (15) calendar days after its adoption, the Ordinance, or a summary of the Ordinance, shall be published once in a newspaper of general circulation.

Introduced and read at a regular meeting of the City Council of the City of Yuba City on the 19th day of May, 2026, and passed and adopted at a regular meeting held on the 16th day of June, 2026.

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____
Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY

_____

SHANNON CHAFFIN, City Attorney
Aleshire & Wynder, LLC

EXHIBIT A

The City Council of the City of Yuba City does ordain as follows:

TITLE 6. – PUBLIC WORKS

CHAPTER 5. WASTEWATER COLLECTION AND TREATMENT[1]

Article 1. General Provisions

Sec. 6-5.101. Purpose and policy.

The purpose of this chapter is to provide for the maximum possible beneficial public use of City facilities through the adequate regulation of sewer construction, sewer use, and industrial wastewater discharges; to provide for the equitable distribution of City costs; and to provide procedures for complying with the requirements placed upon the City by other regulatory agencies.

This chapter sets forth uniform requirements for dischargers to the publicly owned treatment works and enables the City to comply with the administrative provisions of the Clean Water Grant Regulations; water quality requirements of the Regional Water Quality Control Board and the applicable effluent limitations; State Water Resources Control Board's Sanitary Sewer Systems Waste Discharge Requirements (WDR) and Monitoring and Reporting Requirements for the Sanitary Sewer System in reference to the City's sewer system management plan (SSMP); national standards of performance, toxic, and pretreatment effluent standards; and all other applicable State and Federal laws, including the Clean Water Act (33 U.S.C. § 1251 et seq.) and the General Pretreatment Regulations (40 CFR 403). In the event that state and/or federal wastewater discharge or treatment regulations and/or standards exist or are subsequently adopted which are more stringent and/or restrictive than the requirements of this chapter, the more stringent and restrictive regulations shall apply. The primary objectives of this chapter include:

(a) To prevent the introduction of pollutants into the publicly owned treatment works that will interfere with its operation;

(b) To prevent illicit discharges (e.g., infiltration and inflow, chemical dumping, unauthorized debris, etc.) into the sanitary sewer system;

(c) To prevent the introduction of pollutants into the publicly owned treatment works that will pass through the publicly owned treatment works, inadequately treated, into receiving waters, or otherwise be incompatible with the publicly owned treatment works;

(d) To protect both publicly owned treatment works personnel who may be affected by wastewater and sludge in the course of their employment and the general public;

(e) To promote reuse and recycling of industrial wastewater and sludge from the publicly owned treatment works;

(f) To provide for fees for the equitable distribution of the cost of operation, maintenance, and improvement of the publicly owned treatment works;

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[1]Ord. No. 007-16, § 1, adopted June 21, 2016, repealed the former Ch. 5, §§ 6-5.101—6-5.1203, and § 2 of said ordinance enacted a new Ch. 5 as set out herein. The former Ch. 5 pertained to similar subject matter and derived from Ord. 004-11, § 3, effective Aug. 18, 2011.

(g) To enable the City to comply with its National Pollutant Discharge Elimination System permit conditions, sludge use and disposal requirements, and any other Federal or State laws to which the publicly owned treatment works is subject;

(h) To require that sanitary sewers and connections are properly designed, constructed, and maintained;

(i) To ensure access in easements, rights-of-way, and any other areas where sanitary sewer system facilities are installed for maintenance, inspection, or repairs of the sanitary sewer system and any portions of the service laterals and satellite collection system;

(j) To limit discharge of fats, oils, grease, and other debris that may cause blockages; and

(k) To enforce any violations of this chapter.

This chapter shall apply to all users of the publicly owned treatment works. This chapter authorizes the issuance of wastewater discharge permits; provides for monitoring, inspections, compliance, and enforcement activities; establishes administrative review procedures; requires user reporting; and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein.

Revenues derived from the application of this chapter shall be used to defray the City's cost of operating and maintaining adequate wastewater collection and treatment systems and to provide sufficient funds for capital outlay, bond service cost, capital improvements, depreciation, and/or capital replacement.

Sec. 6-5.102. Scope.

This chapter shall be interpreted in accordance with the definitions set forth in Section 6-5.106. of this article.

The provisions of this chapter shall apply to the direct or indirect discharge of all liquid-carried wastes to the facilities of the City. This chapter, among other things, provides for the regulation of sewer construction in areas within the City, the quantity and quality of discharged wastes, the degree of waste pretreatment required, the setting of waste discharge fees to provide for the equitable distribution of costs, the approval of plans for sewer construction, the issuance of permits for industrial wastewater discharges and of other miscellaneous permits, and the establishment of penalties for violations of this chapter.

Sec. 6-5.103. Administration.

Except as otherwise provided in this chapter, the City Manager shall administer, implement, and enforce the provisions of this chapter by coordinating the actions of the ~~Public Works~~Utilities Director, the Finance Director, the Public Works Director, and any other necessary City department. The primary responsibility for the administration, implementation, and enforcement of the parts of this chapter which relate to billing, collecting, and accounting for the fees and charges established by this chapter is assigned to the Finance Director. The primary responsibility for the administration, implementation, and enforcement of the parts of this chapter related to the operations of the wastewater treatment facility, wastewater collection system, sewer system management plan, pretreatment program, and water treatment plant is assigned to the ~~Public Works~~Utilities Director. The primary responsibility for the administration, implementation, and enforcement of the parts of this chapter which relate to professional engineering functions, private development, and improvement or construction of public infrastructure is assigned to the Public Works Director. The primary responsibility for the administration, implementation, and enforcement of all other parts of this chapter is assigned to the ~~Public Works~~Utilities Director. Any powers granted to, or duties imposed upon, the City Manager, ~~Public Works~~Utilities Director, ~~or~~ Finance Director, or Public Works Director may be delegated by them to persons acting in the beneficial interests of or in the employ of the City.

Sec. 6-5.104. Use of revenues.

The revenues derived under the provisions of this chapter shall be placed in a fund entitled "Wastewater Fund." The accounting of revenues shall be in accordance with the applicable state and/or federal laws and regulations, and revenues may be used for any purpose so authorized.

Sec. 6-5.105. Abbreviations.

The following abbreviations, when used in this chapter, shall have the designated meanings:

AHL	Allowable headworks loading
BMP	Best management practices
BOD	Biochemical oxygen demand
CFR	Code of Federal Regulations
CIU	Categorical industrial users
COD	Chemical oxygen demand
EPA	U.S. Environmental Protection Agency
ERP	Enforcement response plan
FOG	Fats, oils, and grease
FSE	Food service establishment
gpd	Gallons per day
GRD	Grease removal device(s)
IU	Industrial user
MAHL	Maximum allowable headworks loading
MAIL	Maximum allowable industrial loading
mg/l	Milligrams per liter
NAICS	North American Industrial Classification System
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
POTW	Publicly owned treatment works
RCRA	Resource Conservation and Recovery Act
SIC	Standard industrial classification
SIU	Significant industrial user
SNC	Significant Non-compliance
SSMP	Sewer System Management Plan
SSO	Sanitary sewer overflow
TBLLDD	Technically based local limit development document
TRC	Technical review criteria
TSS	Total suspended solids
USC	United States Code

Sec. 6-5.106. Definitions.

The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Act or *the Act.* The term "Act" means the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. § 1251 et seq.

Administrative order. For the purposes of this chapter, an order issued by the City of Yuba City, City Attorney, or an Administrative Judge of the Superior Court of California, County of Sutter, compelling a user of the City's POTW to perform in some manner. Administrative orders are issued in response to a violation of this Code and State water or health and safety laws, with the legal jurisdiction dictating which legal official issues the order. The orders are generally issued in the form of show cause, compliance, or consent orders depending on the nature and circumstance of noncompliance.

Allowable headworks loading (AHL). The estimated maximum loading of a pollutant received at a POTW's headworks that should not cause the POTW to violate a particular treatment plant or environmental criterion. AHLs are developed to prevent interference or pass through.

Approval authority. The State of California, Regional Water Quality Control Board, Central Valley Region.

Authorized representative of the user.

(a) If the user is a corporation:

(1) The president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(2) The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for individual wastewater discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(b) If the user is a partnership or sole proprietorship, a general partner or proprietor, respectively.

(c) If the user is a Federal, State, or local governmental facility, a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.

(d) The individuals described in paragraph (a)(1) and paragraph (a)(2) above may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or overall responsibility for environmental matters for the company, and the written authorization is submitted to the City.

Beneficial uses. Uses of the waters of the State which will be protected against quality degradation, including domestic, municipal, agricultural, and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, the preservation and enhancement of fish, wildlife, and other aquatic resources or reserves, and other uses, both tangible or intangible, as specified by Federal or State law.

Best management practices (BMP). The term "best management practices" or "BMP" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the

prohibitions listed in 40 CFR 403.5(a)(1) and (b). BMP also includes treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage. In addition, BMP means activities, prohibitions, maintenance procedures, and other management practices to prevent or reduce the direct or indirect introduction of FOG into the public sewer.

Biochemical oxygen demand (BOD). The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures for five days at 20 degrees Celsius, usually expressed as a concentration (e.g., mg/l).

Building sewer or *lateral sewer.* A sewer conveying the wastewaters of a discharger from a residence, building, or other structure to a community sewer, including direct connections to a community sewer where permitted by the City.

Categorical pretreatment standard or *categorical standard.* Any regulation containing pollutant discharge limits promulgated by EPA in accordance with Section 307(b) of the Act (33 U.S.C. § 1317) which applies to a specific category of users and which appear in 40 CFR 405—471.

Cesspool. A tank, box, or sump used for the receipt of crude sewage, containing no provision for the nitrification, clarification, or disposal of the sewage, or which discharges such sewage upon the open ground.

Chemical oxygen demand (COD). The measure of chemically decomposable materials in domestic or industrial wastewaters as represented by the oxygen utilized as determined by the appropriate procedure described in "standard methods."

Chlorine demand. The amount of chlorine required to produce a free chlorine residual of 0.1 mg/l after a contact time of 15 minutes as measured by the Idiometric Method on a sample at a temperature of 20 degrees Celsius in conformance with "standard methods."

City. The City of Yuba City public organization.

City Manager. The City Manager of the City of Yuba City.

Collecting sewer. Any City-owned sewer line discharging to another City-owned sewer line such as a trunk line.

Collection system. The portions of the public sewer/collecting sewer consisting of all pipes, sewers, and conveyance systems conveying wastewater to the POTW, excluding service lateral line connections which are not owned by the City.

Commercial building. Any structure, building, or enclosure designed primarily for commercial use other than residential or industrial.

Commercial user. Any user not defined as a residential or industrial user.

Community sewer system. The sewers owned and operated by the City. "Community sewer" shall mean that portion of the community sewer system which receives wastewaters from the service lateral of a discharger.

Compatible pollutant. The biochemical oxygen demand, suspended solids, and pH and fecal coliform bacteria, plus additional pollutants identified in the City's NPDES permit.

Connection. The joining of any structure, building, or facility to any sewer line entering the sewer system of the City for the purpose of discharging sanitary or industrial sewage or wastes.

Contamination. Any impairment of the quality of the waters of the State by wastes to a degree which creates a hazard to the public health through poisoning or the spread of disease.

Council or *City Council.* City Council of the City of Yuba City.

County. The County of Sutter.

CPC. California Plumbing Code Book, California Code of Regulations Title 24, Part 5.

Daily discharge. Daily discharge is defined as either:

(1) The total mass of the constituent discharged over the calendar day (12:00 a.m. through 11:59 p.m.) or any 24-hour period that reasonably represents a calendar day for purposes of sampling, for a constituent with limitations expressed in units of mass; or

(2) The unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if one day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Daily maximum. The arithmetic average of all effluent samples for a pollutant collected during a calendar day.

Daily maximum limit. The maximum allowable discharge limit of a pollutant during a calendar day. Where daily maximum limits are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limits are expressed in terms of concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.

Discharger. Any person who discharges or causes a discharge to a public sewer.

Dissolved solids. The solid matter in solution in the wastewaters, which shall be obtained by the evaporation of a sample from which all suspended matter has been removed by filtration as determined by the procedures in "standard methods."

Dwelling unit. Any residence, apartment, habitation, or other structure customarily occupied by a single person or family and which contains facilities for the preparation of meals.

Effluent. The liquid outflow of any facility designed to treat, convey, or retain wastewaters.

Environmental Protection Agency (EPA). The U.S. Environmental Protection Agency or, where appropriate, the Regional Water Management Division Director or other duly authorized official of the agency.

Existing source. Any source of discharge, the construction or operation of which commenced prior to the publication by the EPA of proposed categorical pretreatment standards, which will be applicable to such source if the standard is thereafter promulgated in accordance with Section 307 of the Act.

Fats, oils, and grease (FOG). Any substance such as a vegetable or animal product that is used in or is a byproduct of the cooking or food preparation process and that becomes or may become viscous, or solidifies or may solidify, with a change in temperature or other conditions.

FOG control program. A document prepared and implemented by the City to control FOG (fats, oils, and/or grease).

Food service establishment (FSE). Any facility which prepares and/or packages food or beverages for sale or consumption, on- or off-site, with the exception of private residences, including, but not limited to, food courts, food manufacturers, food packagers, restaurants, grocery stores, bakeries, lounges, bars, hospitals, hotels, nursing homes, churches, and schools.

Garbage. Any solid wastes from the preparation, cooking, and dispensing of food and from the handling, storage, and sale of produce.

Grab sample. A sample which is taken from a waste stream without regard to the flow in the waste stream and over a period of time not to exceed 15 minutes.

Grease-removal device(s). All food service establishments that discharge wastewater to the City's wastewater collection system are required to have City-approved and properly sized grease-removal devices, also commonly referred to as "grease traps" or "grease interceptors."

Both devices are primary grease-removal devices that separate and retain free-floating FOG. The differences between the two types of grease-removal devices are primarily the size and physical location of the unit.

Indirect discharge or *discharge.* The introduction of pollutants into the POTW from any non-domestic source regulated under Sections 307(b), (c), or (d) of the Act.

Industrial wastewater or *industrial user (IU).* Shall mean as defined in Article 4 of this chapter.

Insignificant violation. Any violation that is not by definition defined as significant non-compliance (SNC).

Inspector. A person authorized by the Public Works Director to inspect wastewater generation, conveyance, processing, and disposal facilities.

Instantaneous maximum allowable discharge limit. The maximum concentration of a pollutant allowed to be discharged at any time, determined from the analysis of any discrete or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

Interference. A discharge, which alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the POTW, its treatment processes, or operations or its sludge processes, use, or disposal, and, therefore, is a cause of a violation of the City's NPDES permit (including an increase in the magnitude or duration of a violation) or causes the prevention of sewage sludge use or disposal in compliance with any of the following statutory/regulatory provisions or permits issued hereunder, or any more stringent State or local regulations: Section 405 of the Act; the Solid Waste Disposal Act (SWDA), including Title II, commonly referred to as the Resource Conservation and Recovery Act (RCRA); any State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the Solid Waste Disposal Act); the Clean Air Act; the Toxic Substances Control Act; and the Marine Protection, Research, and Sanctuaries Act.

Lot or *parcel.* A lot or parcel of land consisting of one lot of record in one ownership.

Main sewer or *sewer main.* A portion of the community sewer system located in a street or public easement which receives wastewater from the service lateral of a discharger and is designated to accommodate more than one service lateral.

Maximum allowable concentration. The maximum concentration of a pollutant which may be discharged from an IU into the City's collection system. Unless dictated by superseding regulations (i.e., national pretreatment or categorical standards), the maximum allowable concentration may be taken as a grab or composite sample at the discretion of the Public Works Director.

Maximum allowable headworks loading (MAHL). The estimated maximum loading of a pollutant that can be received at a POTW's headworks without causing pass through or interference. The most protective (lowest) of the AHLs estimated for a pollutant.

Maximum allowable industrial loading (MAIL). The estimated maximum loading of a pollutant that can be received at a POTW's headworks from all permitted industrial users and controlled sources without causing pass through or interference. The MAIL is usually calculated by applying a safety factor to the MAHL and discounting for uncontrolled sources, hauled wastewater, and growth allowance.

Medical waste. Isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

Monthly average. The sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Monthly average limit. The highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. New source.

(a) Any building, structure, facility, or installation from which there is (or may be) a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under Section 307(c) of the Act which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:

(1) The building, structure, facility, or installation is constructed at a site at which no other source is located;

(2) The building, structure, facility, or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or

(3) The production or wastewater generating processes of the building, structure, facility, or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant and the extent to which the new facility is engaged in the same general type of activity as the existing source should be considered.

(b) Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new building, structure, facility, or installation meeting the criteria of subsection (a)(1) or (a)(2) above but otherwise alters, replaces, or adds to existing process or production equipment.

(c) Construction of a new source as defined under this paragraph has commenced if the owner or operator has:

(1) Begun, or caused to begin, as part of a continuous on-site construction program:

(i) Any placement, assembly, or installation of facilities or equipment; or

(ii) Significant site preparation work, including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment.

(2) Entered into a binding contractual obligation for the purchase of facilities or equipment which is intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

Non-contact cooling water. Water used for cooling, which does not come into direct contact with any raw material, intermediate product, waste product, or finished product.

North American Industrial Classification System (NAICS). U.S. Census Bureau business classification system.

Outside user. Any person responsible for the payment of sewer service fees for premises served outside the City limits.

Pass through. A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the City's NPDES permit, including an increase in the magnitude or duration of a violation.

Person. Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity, or their legal representatives, agents, or assigns. This definition includes all Federal, State, and local governmental entities.

pH. A measure of the acidity or alkalinity of a solution, expressed in standard units.

Pollutant. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, municipal wastes, agricultural wastes, and industrial wastes, and certain characteristics of wastewater (e.g., pH, temperature, TSS, turbidity, color, BOD, COD, toxicity, or odor).

Premises. Any lot, piece, or parcel of land, any building or other structure, or any part of any building or structure used or useful for human habitation or gathering or carrying on any business or occupation.

Pretreatment. The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to, or in lieu of, introducing such pollutants into the POTW. This reduction or alteration can be obtained by physical, chemical, or biological processes; by process changes; or by other means, except by diluting the concentration of the pollutants unless allowed by an applicable pretreatment standard.

Pretreatment requirements. Any substantive or procedural requirement related to pretreatment, other than a National Pretreatment Standard, imposed on an industrial user.

Pretreatment standard or *standard.* The terms "National Pretreatment Standard," "pretreatment standard," or "standard" mean any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Sections 307(b) and (c) of the Act, which applies to industrial users. This term includes prohibitive discharge limits established pursuant to Section 403.5.

Private sewer. That portion of a sewer serving an independent sewage disposal system, not connected with a public sewer, and which accommodates one or more buildings or industries.

Prohibited discharge standards or *prohibited discharges.* Absolute prohibitions against the discharge of certain substances; these prohibitions appear in Section 6-5.207.

Public sewer. The main line sewer constructed in a street, highway, alley, place, or right-of-way dedicated to public use. "Public sewer" shall not include a house connection sewer or service lateral.

Public Works Director ~~or Director~~. The Public Works Director of the City or such other person as may be designated by the Public Works Director to perform the services or make the determinations permitted or required under this chapter to be made by the Public Works Director.

Publicly owned treatment works (POTW). A "treatment works," as defined by Section 212 of the Act (33 U.S.C. § 1292) which is owned by the City. This definition includes any devices or systems used in the collection, storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW treatment plant. The term also means the municipality as defined in Section 502(4) of the Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Radioactive material. A material containing chemical elements that spontaneously change their atomic structure by emitting any particles, rays, or energy forms.

Receiving water quality standards. The requirements for City treatment plant effluent established by law or by State or Federal regulatory agencies for the protection of receiving water quality. Said standards shall include effluent limitations and waste discharge standards, requirements, limitations, or prohibitions which may be established, amended, or adopted by State or Federal laws or regulatory agencies.

Residential user. Any user whose premises are used solely for residential purposes.

Sanitary sewage. The waste discharging into the City sewage system which contains human or animal excreta.

Sanitary sewer overflow (SSO). Any overflow, spill, release, discharge, or diversion of untreated or partially-treated wastewater from a sanitary sewer system, including overflows or releases that reach waters of the United States, overflows or releases that do not reach the waters of United States, and backups into buildings and/or private property caused by conditions within the publicly owned portion of the sewer system.

Septic tank system. A system of reservoirs or tanks which receive sanitary sewage and by septic bacterial action affect the decomposition and settlement of settleable solids and the diversion of the septic liquid for clarification and purification which take place by further bacterial action in percolation ducts extending into natural or prepared porous subsoil beds.

Septic tank waste. Any sewage from holding tanks such as vessels, chemical toilets, campers, trailers, and septic tanks.

Service lateral. A sewer conveying the wastewaters of a discharger from a residence, building, or other structure(s) to a community sewer, including direct connections to a community sewer where permitted by the City.

Sewage. Human excrement and gray water (household showers, dishwashing operations, etc.), which is a constituent of wastewater.

Sewage lift station. Any facility designed and constructed to raise wastewaters in elevation or to overcome head losses due to pipeline friction.

Sewage treatment plant. Any arrangement of devices and structures for treating sewage.

Sewer system management plan (SSMP). A document prepared by the City that describes the activities to manage the wastewater collection system.

Sewerage system or *sewer system.* The services and facilities for the treatment and disposal of industrial wastes and sanitary sewage.

Shall and *may.* "Shall" is mandatory and "may" is permissive.

Significant industrial user (SIU).

(a) A user subject to categorical pretreatment standards; or a user that:

(1) Discharges an average of 25,000 gpd or more of process wastewater to the POTW (excluding sanitary, non-contact cooling, and boiler blowdown wastewater);

(2) Contributes a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or

(3) Is designated as such by the City on the basis that it has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

(b) The City may determine that an industrial user subject to categorical pretreatment standards is a non-significant categorical industrial user rather than a significant industrial user on a finding that the industrial user never discharges more than 100 gpd of total categorical wastewater (excluding sanitary, non-contact cooling, and boiler blowdown wastewater, unless specifically included in the pretreatment standard) and the following conditions are met:

(1) The industrial user, prior to the City's finding, has consistently complied with all applicable categorical pretreatment standards and requirements;

(2) The industrial user annually submits the certification statement required in Section 6-5.402.F(b), together with any additional information necessary to support the certification statement; and

(3) The industrial user never discharges any untreated concentrated wastewater.

(c) Upon finding that a user meeting the criteria in subsection (b) has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the City may, at any time, on its own initiative or in response to a petition received from a user and in accordance with procedures in 40 CFR 403.8(f)(6), determine that such user should not be considered a significant industrial user.

Slug load or *slug discharge.* Any discharge at a flow rate or concentration which could cause a violation of the prohibited discharge standards in Article 2 of this chapter. A slug discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause interference or pass through, or in any other way violate the POTW's regulations, local limits, or permit conditions.

Standard Industrial Classification (SIC). A classification pursuant to the Standard Industrial Classification Manual issued by the United States Office of Management and Budget.

Standard methods. The procedures described in the latest edition of "Standard Methods for the Examination of Water and Wastewater" as published by the American Public Health Association, the American Water Works Association, and the Water Environment Federation. Elements of wastewater strength shall be measured by "standard methods" unless otherwise expressly stated.

Standard specifications. A set of documents including standard details and special provisions containing design and construction standards for all sewerage works within the City. The edition of standard specifications in place at the time of permit issuance/approval shall rule.

Stormwater. Any flow occurring during or following any form of natural precipitation and resulting from such precipitation, including snowmelt.

Suspended solids. The total suspended matter that floats on the surface of or is suspended in water, wastewater, or other liquid, and which is removable by laboratory filtering.

Trade secrets. Any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which is not patented and is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value and which gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.

Trailer court. Any parcel of land designed for residential use with two or more mobile homes, travel trailers, pickup campers, or motor homes.

Trunk sewer. A sewer constructed, maintained, and operated by the City which conveys wastewaters to the City's treatment facilities and into which service laterals and collecting sewers discharge.

Uncontaminated water. Any wasted water of the community not contaminated or polluted with wastewaters and which is suitable or could readily be made suitable for discharge to the municipal stormwater drainage system.

User or *industrial user.* A source of indirect discharge. Also defined as any person responsible for the payment of the sewer service charges for premises served as provided in this chapter.

Utilities Director or *Director.* The Utilities Director of the City or such other person as may be designated by the Utilities Director to perform the services or make the determinations permitted or required under this chapter to be made by the Utilities Director.

Waste. Sewage and any and all other waste substances, including gaseous or radioactive substances, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature.

Wastewater. Liquid and water-carried industrial wastes and sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, which are contributed to the POTW.

Wastewater strength. The quality of wastewaters discharged as measured by its elements, including its constituents and characteristics.

Wastewater treatment plant, wastewater treatment facility, or *water reclamation facility treatment plant.* That portion of the POTW which is designed to provide treatment of municipal sewage/wastewater and industrial waste.

Article 2. Rules and Regulations

Sec. 6-5.201. Discharge into streams prohibited.

Treatment of waste is required. It shall be unlawful to discharge to any stream or watercourse any sewage, industrial wastes, or other polluted waters, except where suitable treatment has been provided in accordance with the provisions of this chapter.

Sec. 6-5.202. Privies and septic tanks prohibited.

Except as herein provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, seepage pit, or other facility intended or used for the disposal of sewage.

Sec. 6-5.203. Occupancy prohibited.

No building, industrial facility, or other structure shall be occupied until the owner of the premises has complied with all the rules and regulations of the City and this chapter.

Sec. 6-5.204. New buildings requiring sewers.

Before a building permit may be issued for any new building to be situated within the City which requires sewage disposal, provisions shall be made by the applicant and/or the property owner to connect the building with the City public sewer system, all in accordance with the requirements of this chapter. Provisions to connect the building to the public sewer may include extension of the main sewer line at the property owner's expense if necessary to adequately serve the building as determined by the Public Works Director. The property owner shall be responsible for the proper maintenance of the service lateral, at property owner's expense, from the building(s) to the collecting sewer/community sewer, including the connection of the service lateral to the collecting sewer/community sewer.

(a) The Public Works Director may determine that extension of the public sewer to the new building is unfeasible due to distance and, upon approval, may allow the property owner to obtain authorization by the County Health Department to construct a septic system. In such cases, Section 6-5.207. shall then apply.

Sec. 6-5.205. Existing buildings requiring sewage disposal.

Existing buildings situated within the City and requiring sewage disposal shall be required to be connected to the public sewer system of the City at the property owner's expense provided such public sewer is within 200 ft. of the nearest point of the structure. Exceptions to this requirement may be permitted when the County Health Official finds that an existing septic tank system and/or private sewage disposal system is properly and adequately functioning; however, once the private sewage disposal system and/or septic tank system fails for the structure which is within 200 ft. of the serviceable public sewer line, a connection to the public sewer system shall be required at the property owner's expense. All fees shall be paid prior to issuance of a building permit. The property owner shall be responsible for the proper maintenance of the service lateral, at property owner's expense, from the building(s) to the collecting sewer/community sewer, including the connection of the service lateral to the collecting sewer/community sewer.

Sec. 6-5.206. Ownership of the service lateral.

Every user of the community sewer system shall be connected to the City sewer main by a sewer service lateral. Sewer service laterals shall be installed, properly maintained, and repaired by the owner of the property which the lateral serves. The entire sewer service lateral from the building connection to and including the wye connection to the sewer main shall be the owner's responsibility to install, properly maintain, and repair.

All persons using the community sewer system of the City shall pay for such service and for the privilege of connecting to the sewer at the rates, at the times, and under the conditions set forth in this chapter and shall comply with all of the regulations set forth in this chapter relating to the use of such sewer system.

All sewer service laterals connecting a user, whether a single-family residence, commercial building, or other structure, to a City-owned sewer main located in the public right-of-way or easement shall be owned, maintained, and repaired by the owner of the property being served, from and including the lateral's connection point at the City sewer main to the building or other point of use on the property. This includes both the portion on private property and the portion located beneath the sidewalk and street or any other public right-of-way or easement areas such as alleys, trails, and landscape areas, up to and including the point where the lateral connects to the City sewer main.

The City shall have the right to conduct maintenance inspection and/or repairs to the service lateral if needed, and it shall be the property owner's obligation to reimburse the City for the actual cost of such repair and inspection. The City may enforce the obligation to reimburse under Article 7 of this chapter, as well as Chapter 2 of Title 1 of this Code.

Sec. 6-5.207. Private sewage disposal systems.

(a) *Private sewer system allowed.* When it has been determined by the Public Works Director that a building may be connected to a private sewage disposal system, the private system shall comply with the provisions of this chapter.

(b) *Permits required.* Before the commencement of the construction of a private sewage disposal system, the owner shall first obtain a written permit signed by the Public Works Director, the County Health Department, and any other agency or person(s) required by the permit.

(c) *Inspections required.* A permit for a private sewage disposal system shall not become effective until the installation is completed to the satisfaction of the Public Works Director and the County Health Department. The City shall be allowed to inspect the work at any stage of the construction, and, in any event, the applicant for the permit shall notify the City and County Health Department when the work is ready for final inspection and before any underground portions are covered.

(d) *Design requirements.* The type, capacities, locations, and layout of a private sewage disposal system shall comply with all the recommendations of the Department of Public Health of the State and the County Health Department. No septic tank or cesspool shall be permitted to discharge to any public sewer or any stream or watercourse. In addition, the private sewage disposal system shall meet all of the applicable local, State, and Federal design requirements at the time of construction.

(e) *Abandonment of facilities.* At such time as a public sewer becomes available to a property served by a private sewage disposal system, a direct connection shall be made to the public sewer in compliance with the laws, rules, and regulations of the City, and any septic tanks, cesspools, and similar private sewage disposal facilities shall be abandoned and filled with suitable material as determined by the Public Works Director and County Health Department. In addition, all other applicable local, sState, and fFederal requirements shall apply to appropriately abandon the facility.

(f) *Costs of maintenance by owners.* The owner shall operate and maintain the private sewage disposal facilities in a sanitary manner at all times at no expense to the City.

(g) *Additional requirements.* No statement contained in this chapter shall be construed to interfere with any additional requirement that may be imposed by any law, ordinance, rule, or regulation, or by the City or the County Health Department or the State.

Sec. 6-5.208. Prohibited discharge standards.

(a) *General prohibitions.* No user shall introduce or cause to be introduced into the POTW any pollutant or wastewater which causes pass through, interference, or blockage(s) in the sanitary sewer system. These general prohibitions and the specific prohibitions in paragraph (b) below apply to all users of the POTW whether or not they are subject to categorical pretreatment standards or any other national, State, or local pretreatment standards or requirements.

(b) *Specific prohibitions.* No user shall introduce or cause to be introduced into the POTW the following pollutants, substances, or wastewater:

(1) Pollutants which create a fire or explosive hazard in the POTW, including, but not limited to, waste streams with a closed-cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Celsius) using the test methods specified in 40 CFR 261.21;

(2) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0 or more than 11.5, unless the works is specifically designed to accommodate such discharges;

(3) Solid or viscous pollutants in amounts, as determined by the City, which will cause obstruction of the flow in the POTW resulting in interference but in no case, solids with a diameter greater than one-fourth inch;

(4) Any pollutant, including oxygen-demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause interference with the POTW;

(5) Wastewater having a temperature at the point of discharge which will inhibit biological activity in the treatment plant resulting in interference, but in no case, wastewater which causes the temperature at the introduction into the treatment plant to exceed 104° Fahrenheit (40 degrees Celsius);

(6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through;

(7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;

(8) Trucked or hauled pollutants, except at discharge points designated by the ~~Public Works~~Utilities Director in accordance with Section 6-5.406.D of this chapter;

(9) Noxious or malodorous liquids, gases, solids, or other wastewater which, either singly or by interaction with other wastes, are sufficient to create a public nuisance or a hazard to life, or to prevent entry into the sewers for maintenance or repair;

(10) Wastewater which imparts color which cannot be removed by the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, which consequently imparts color to the treatment plant's effluent, thereby violating the City's NPDES permit;

(11) Wastewater containing any radioactive wastes or isotopes except in compliance with applicable State or Federal regulations;

(12) Stormwater, surface water, groundwater, artesian well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, deionized water, non-contact cooling water, and unpolluted wastewater, unless specifically authorized by the ~~Public Works~~Utilities Director;

(13) Sludges, screenings, or other residues from the pretreatment of industrial wastes;

(14) Medical wastes, except as specifically authorized by the ~~Public Works~~Utilities Director in a wastewater discharge permit;

(15) Wastewater causing, alone or in conjunction with other sources, the treatment plant's effluent to fail a toxicity test;

(16) Detergents, surface-active agents, or other substances which may cause excessive foaming in the POTW;

(17) Fats, oils, or greases (FOG) of animal or vegetable origin in concentrations greater than 100 mg/l; or which will cause interference or pass through at the POTW or which will cause: (i) any visible sheen on the surface of the discharged wastewater; (ii) any buildup of fats, oils, or grease in any portion of the POTW; or (iii) any obstruction of the POTW;

(18) FOG, as defined by the City's FOG control program and/or ~~Public Works~~Utilities Director;

(19) Wastewater causing two readings on an explosion hazard meter at the point of discharge, or at any point in the POTW, of more than 5% or any single reading over 10% of the lower explosive limit of the meter;

(20) Releases of pollutants which, either singly or by interaction with other pollutants, cause contamination of sludge which prevents its use or disposal in accordance with the City's NPDES permit;

(21) Cementitious materials;

(22) Any solid or viscous substance or particles in a quantity, either by itself or in combination with other wastes, that is capable of obstructing flow or impairing the performance of the POTW;

(23) Any wastewater containing strong acid iron pickling, or concentrated plating solutions, whether neutralized or not;

(24) The discharge of any radiological, chemical, or biological warfare agent or high-level, radiological waste;

(25) Rags, non-flushable wipes, diapers, and other hygiene products which do not biodegrade effectively which therefore may obscure flow or impact performance of the POTW in quantity or in combination with other wastes.

(c) The foregoing discharge prohibitions are not exclusive and shall be in addition to any prohibitions or requirements specified in any other provision of this Code or any other applicable statute, regulation, ordinance, or other governmental requirement.

Pollutants, substances, or wastewater prohibited by this section shall not be processed or stored in such a manner that they could be discharged to the POTW or stormwater collection system.

Sec. 6-5.209. Pretreatment local limits.

(a) The ~~Public Works~~Utilities Director is authorized to establish local limits pursuant to 40 CFR 403.5(c).

(b) In addition to general and specific prohibitions and other regulatory requirements listed in Chapter 5 of Title 6 of this Code, pretreatment local limits are established to protect against pass through and interference. These constituents and their MAIL limit can be found in the latest technically based local limit development document (TBLLDD). Constituents listed in the TBLLDD will be apportioned according to flow volume discharge limitations defined in individual wastewater discharge permits. All loadings for metals are for

"total" metals unless indicated otherwise. Categorical discharge limits apply at the discharge point from each specified regulated process. The ~~Public Works~~Utilities Director will impose mass-based, concentration-based, and/or production-based limitations for controlling pollutant loading to the POTW. Maximum allowable quantities of pollutants not listed in this subsection may be determined by the ~~Public Works~~ Utilities Director based on applicable water quality criteria or as determined by legally established and approved scientific methods.

(c) The ~~Public Works~~Utilities Director may develop best management practices (BMPs), by ordinance or in individual wastewater discharge permits, to implement local limits and the requirements of Section 6-5.208.

(d) The established local limits are subject to change and shall be modified as needed based on regulatory requirements and standards, WWTF operation, performance, and processes, the industrial user base, potable water quality, and domestic wastewater characteristics.

Sec. 6-5.210. National Categorical Pretreatment Standards.

The categorical pretreatment standards found in 40 CFR 405—471 are hereby incorporated.

(a) Where a categorical pretreatment standard is expressed only in terms of either the mass or the concentration of a pollutant in wastewater, the ~~Public Works~~Utilities Director may impose equivalent concentration or mass limits in accordance with 40 CFR 403.6(c).

(b) When wastewater subject to a categorical pretreatment standard is mixed with wastewater not regulated by the same standard, the ~~Public Works~~Utilities Director shall impose an alternate limit using the combined waste stream formula in 40 CFR 403.6(e).

(c) A user may obtain a variance from a categorical pretreatment standard if the user can prove, pursuant to the procedural and substantive provisions in 40 CFR 403.13, that factors relating to its discharge are fundamentally different from the factors considered by the EPA when developing the categorical pretreatment standard.

(d) A user may obtain a net gross adjustment to a categorical standard in accordance with 40 CFR 403.15.

(e) Discharging categorical industrial users (CIUs) shall monitor for all constituents listed in the Code of Federal Regulations (40 CFR 405—471). Wastewater discharged from such users shall be subject to any limitations therein which are not included in the local limits section of this chapter.

(f) Any non-discharging (excluding sanitary, non-contact cooling, and boiler blow down wastewater, unless specifically included in the pretreatment standard) industrial user subject to the National Categorical Pretreatment Standards found at 40 CFR 403 et seq., may be issued zero-discharge permits.

Sec. 6-5.211. State of California pretreatment standards.

State of California pretreatment standards located at CCR Title 23, Division 7, Chapter 5.5, Sections 13370 through 13389 of the Porter Cologne Water Quality Control Act are hereby incorporated.

Sec. 6-5.212. Right of entry: inspection and sampling.

The ~~Public Works~~Utilities Director and/or designee shall have the right to enter the premises of any user, upon providing proper credentials and identification, to determine whether the user is complying with all requirements of this chapter and any wastewater discharge permit or order issued hereunder. Users shall allow the ~~Public Works~~Utilities Director or designee ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and the performance of any additional duties. Access shall be provided at any time the premises are staffed with production underway.

(a) Where a user has security measures in force which require proper identification and clearance before entry into its premises, the user shall make necessary arrangements with its security guards so that, upon presentation of suitable identification, the ~~Public Works~~Utilities Director and/or designee will be permitted to enter without delay for the purposes of performing specific responsibilities.

(b) The ~~Public Works~~Utilities Director and/or designee shall have the right to set up on the user's property, or require installation of, such devices as are necessary to conduct sampling and/or metering of the user's operations.

(c) The ~~Public Works~~Utilities Director and/or designee may require the user to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the user at their own expense. All devices used to measure wastewater flow and quality shall be calibrated annually or more often as deemed necessary by the POTW.

(d) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the user at the written or verbal request of the ~~Public Works~~Utilities Director and/or designee and shall not be replaced. The costs of clearing such access shall be borne by the user.

(e) Unreasonable delays in allowing the ~~Public Works~~Utilities Director and/or designee access to the user's premises shall be a violation of this chapter.

Sec. 6-5.213. Search warrants.

If the ~~Public Works~~Utilities Director and/or designee has been refused access to a building, structure, or property, or any part thereof, and is able to demonstrate probable cause indicating a violation of this chapter, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program of the City designed to verify compliance with this chapter or any permit or order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the ~~Public Works~~Utilities Director may seek issuance of a search warrant from the Superior Court of California, County of Sutter.

Sec. 6-5.214. City of Yuba City's right of revision and right to deny or condition increased contribution of changes in nature of pollutants.

The City reserves the right to establish, by ordinance or in wastewater discharge permits, additional or more stringent standards or requirements on discharges to the POTW. Additionally, the City reserves the right to deny or condition new or increased contributions of pollutants flow or changes in the nature of pollutants to the POTW by industrial users where such contributions do not meet applicable pretreatment standards and requirements or where such contributions may cause the POTW to violate its NPDES permit.

Sec. 6-5.215. Dilution.

No user shall ever increase the use of process water, or in any way attempt to dilute a discharge, as a partial or complete substitute for adequate treatment to achieve compliance with a discharge limitation unless expressly authorized by an applicable pretreatment standard or requirement. The ~~Public Works~~Utilities Director may impose mass limitations on users who are using dilution to meet applicable pretreatment standards or requirements or in other cases when the imposition of mass limitations is appropriate.

Sec. 6-5.216. Excessive sewer maintenance expense.

No person shall discharge, or cause to be discharged either directly or indirectly, any waste that creates a stoppage, plugging, breakage, any reduction in sewer capacity, or any other damages to the sewers or sewerage

facilities of the City. Any excessive sewer or sewerage maintenance expense, or any other expense attributable thereto, will be charged to the offending discharger by the City.

Any refusal to pay excessive maintenance expenses duly authorized by the ~~Public Works~~Utilities Director shall constitute a violation of this chapter, and may be enforced as authorized by this Code.

Sec. 6-5.217. Outside sewers.

(a) *Permits and fees.* Permission shall not be granted to connect any lot or parcel outside the City to any public sewer in or under the jurisdiction of the City unless a permit therefore is obtained from the City. Such permits shall be approved by the Council. The connection impact fees shall be paid at the option of the developer/applicant at either the issuance of the building permit or at certificate of occupancy for a proposed development project, not at the date of application for a permit. The amount of the impact fees to be paid shall be those fees in effect at the time the fees are paid at either the issuance of a building permit or certificate of occupancy. Exceptions to this requirement may be negotiated between the developer and the City as part of the entitlement and agreement process, subject to City Council approval. The City may require the developer/applicant to pay, as determined by the Public Works Director, inspection fees at the time of building permit.

(b) *Connection agreements.* In no event shall such permission be granted unless the applicant shall first enter into a contract in writing whereby they shall bind themselves, and their heirs, successors, and assigns, to abide by all laws, rules, and regulations in regard to the manner in which such sewer shall be used and the manner of connecting therewith, and also shall agree to pay all fees required for securing the permit and a monthly fee in the amount set forth by the City for the privilege of using such sewer.

(c) *Special outside agreements.* Where special conditions exist relating to an outside sewer, they shall be the subject of a special contract between the applicant and the City, subject to approval by the City Council.

Sec. 6-5.218. Containment and notification of prohibited discharge.

Any person owning or occupying premises in the City who has knowledge of any discharge from the premises that is prohibited by the provisions of this article and that has entered or will enter the public sewer system, shall immediately take all reasonable action to contain and abate the discharge and shall notify the City immediately.

Sec. 6-5.219. Disclaimer of liability.

The requirements set forth herein are minimum standards and this chapter does not imply that a wastewater discharge that complies with this chapter will necessarily comply with all other applicable statutes, regulations, ordinances, or other governmental requirements. This chapter shall not create or impose any liability on the City, its officers, or employees for any damages that result from reliance on this Code or any administrative decision lawfully made hereunder.

Sec. 6-5.220. Interceptor for other businesses.

The ~~Public Works~~Utilities Director and/or designee may require businesses other than food service establishments to install FOG and/or sand interceptors in accordance with the City's FOG control program and/or when, in the opinion of the ~~Public Works~~Utilities Director, interceptor(s) and/or clarifier(s) are necessary for the proper handling of liquid wastes containing fat, oil, or grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients. Such interceptor(s)/clarifier(s) shall be installed, operated, and maintained at no cost to the City, shall be of a type and capacity approved by the ~~Public Works~~Utilities Director and/or designee, and shall be located as to be readily and easily accessible for cleaning and inspection.

Clarifier(s) and/or interceptor(s) utilized at a commercial automotive service facility or commercial vehicle washing facility or automotive wash rack shall be pumped out by a licensed hauler at a minimum of every 365 days. The ~~Public Works~~ Utilities Director or designee may require an increased pump out frequency as deemed necessary.

Sec. 6-5.221. Discharge of groundwater into the City sewer system.

The ~~Public Works~~Utilities Director may at his or her sole discretion approve a request to discharge groundwater into the City sewer system, upon execution by the person proposing the discharge of a written agreement signed and approved by the ~~Public Works~~ Utilities Director, specifying the terms and conditions that apply to the discharger and the discharge, and subject to the payment of any applicable charges and fees and such other requirements as may be imposed by the City or any other public agency. Any person violating any provision of the agreement shall be subject to administrative penalties pursuant to appropriate sections of this Code, in addition to any other penalty or remedy provided by the agreement, this Code, or any other provision of any applicable statute, regulation, or ordinance.

Sec. 6-5.222. Food service establishment (FSE) requirements.

All FSEs shall comply with such BMP requirements as outlined in the FOG control program and/or may be established from time to time by resolution of the City Council and/or ~~Public Works~~Utilities Director.

Sec. 6-5.223. Operations and maintenance of sanitary sewer system assets located within sewer easements.

The City shall have the right to operate, inspect, maintain, and repair sewer system assets located within the sewer easements.

Article 3. Sewer Construction

Sec. 6-5.301. Building sewers, service laterals, and connections.

(a) *Permits required.* No person shall construct a building sewer or service lateral or make a connection with any public sewer without first obtaining a written permit from the City and paying all the fees and connection charges as required thereby.

(b) *Design and construction requirements.* The design and construction of building sewers and service laterals, including the connections, shall be in accordance with the requirements of the City, latest edition of the International Building Code and California Plumbing Code, and in accordance with the City's standard specifications.

(c) *Separate sewers.* No two adjacent buildings fronting on the same street shall be permitted to join in the use of the same service lateral. Every building or industrial facility shall be separately connected with a public sewer if such public sewer exists in the street upon which the property abuts or in an easement which will serve such property.

(1) One or more buildings located on property belonging to the same owner may be served, upon approval of the Public Works Director or Utilities Director, with the same service lateral during the period of such ownership. Upon the subsequent subdivision and sale of a portion of such lot, the portion not directly connected to such public sewer shall be separately connected to a public sewer after obtaining appropriate permit from the City, and it shall be unlawful for the owner thereof to continue to use or

maintain such indirect connection. All fees and charges associated with the separation shall be paid prior to any construction work related to the separation.

(2) Should adjacent buildings or parcels belonging to different owners share an existing service lateral, the property owners shall be required to separate and build separate laterals to each building or parcel upon the failure of the shared-use lateral. Repairs to a shared-use lateral may only be made by permission of the Public Works Director.

(d) *Old building sewers.* Old building sewers may be used in connection with new buildings only when they are found, upon inspection and test, to meet all the requirements of the City, by permission of the Public Works Director or Utilities Director. Anyone wishing to utilize existing or old service laterals must submit supportive documentation such as pipe TV analysis and any other tests required by the City. The applicant shall be responsible for all costs associated with this application including preparation of the required supportive documents.

(e) *Cleanouts.* Cleanouts in building sewers shall be provided in accordance with the latest edition of California Plumbing Code, the standard specifications, and any other City requirements. All cleanouts shall be maintained watertight.

(f) *Sewers too low.* In all buildings in which any building sewer is too low to permit gravity flow to the public sewer, the sanitary sewage carried by such building sewer shall be lifted by artificial means approved by the Public Works Director or Utilities Director through an agreement with the conditions and discharged to the public sewer at the expense of the owner. The owner shall be responsible for the proper operation and maintenance of such system at his/her own expense.

(g) *Connections to public sewers.* The connection of the service lateral into the public sewer shall be made in accordance with the standard specifications and other City requirements and at the applicant's expense. The property owner shall be obligated to install and maintain the service lateral at his/her sole expense from the sewer main to the building being served. Where the City has partially constructed the service lateral from the main to the property line in order to avoid the further or future tearing up of the streets, it shall be the property owner's obligation to reimburse the City for the actual cost of that portion of the sewer service lateral constructed by the City. Property owners shall be solely responsible for the entire cost of the sewer service lateral from the main to the building being serviced, which shall be collected at the time of the connection to the public sewer system. The connection to the public sewer shall be made in the presence of a City inspector and under their supervision and direction. Any damage to the public sewer shall be repaired in conformance with the standard specifications and other City requirements at the cost of the applicant.

(h) *Maintenance of service lateral.* Service laterals shall be maintained by the owner of the property served thereby. The City shall have the right to conduct maintenance inspection, and/or repair to the service lateral if needed, and it shall be the property owner's obligation to reimburse the City for the actual cost of such repair and inspection. Failure to reimburse the City shall be addressed as established by Section 6-5.206 of this Code.

(i) *Testing.* All building sewers and service laterals shall be tested in accordance with the standard specifications.

(j) *Prohibited cross connections.* Sanitary sewer pipes shall not be connected to the storm drain system. The discharge of sanitary sewer/wastewater to the storm drain system is prohibited. It shall be the property owner's responsibility to avoid any cross connections during construction. This condition is applicable in all the circumstances, unless exceptions are approved by the Public Works Director or Utilities Director, even if the improvement plans/drawings and construction work are approved by the City. The discharge of sanitary sewer/wastewater to the storm drain system is prohibited.

(1) The ~~Public Works~~Utilities Director may notify and require property owner(s) with cross connections to eliminate the cross connection, and install backflow prevention devices, at the property owner(s) expense if the elimination is reasonably necessary as determined by the ~~Public Works~~Utilities Director.

(k) *Maintenance and repair; indemnity.*

(1) The property owner shall maintain in good condition, and shall be responsible, regardless of the cause, for all required repairs to the customer's private sewer line and all other sewer pipe(s) and appurtenances on property owner's premises. Property owner shall comply with all requirements under this Code prior to excavating anywhere within the public right-of-way for the purpose of maintaining and/or repairing the private sewer line.

(2) The property owner shall indemnify, defend, and hold harmless the City, its officers, and employees from and against any and all claims, actions, costs (including attorney fees), damages, or other liability arising from the condition, operation, maintenance, or repair of any sewer line, pipe, or appurtenance that the owner is required to maintain and repair hereunder.

(l) *Private sewer lines—No infiltration or leaks.*

(1) If any private service lateral is found to have a leak or defect that could result in infiltration and/or contamination of ground water or storm runoff, or a result in a wastewater leak or overflow, and the ~~Public Works~~Utilities Director determines that the leak or defect should be repaired to protect the public health, welfare, or safety, or any regulatory agency requires the leak or defect to be repaired, the ~~Public Works~~Utilities Director may notify the owner of the property where the private sewer line is located that the owner must repair the line, and the owner of the line shall promptly upon notification repair the line to the satisfaction of the City. The City may require reasonable inspection of work performed and the property owner shall be responsible to pay fees/costs associated with these inspections.

(2) If the owner of the property where the private sewer line is located fails to make the determined repairs, the condition resulting from the leak or defect in the private sewer line shall be deemed to constitute a public nuisance, and the ~~Public Works~~Utilities Director shall be authorized to commence and carry out proceedings for abatement of the condition and repair of the leak or defect. When, in the opinion of the ~~Public Works~~ Utilities Director, the leak or defect causes or threatens to cause a condition that presents an imminent danger to the public health, safety, or welfare, or the environment, or a violation of an NPDES permit, the Director may summarily abate the condition and repair the leak or defect. The owner shall be liable for the costs incurred by the City for any abatement and repair, including any related inspection and testing costs, arising from the leak or defect, and the cost therefor shall be invoiced to the owner. If the invoice is not paid within 30 days, the ~~Public Works~~Utilities Director may commence proceedings for recovery of these costs in accordance with the provisions of this Code.

(i) Nuisance abatement and cost recovery shall be in accordance with Title 4, Chapter 8 Nuisance Abatement Code of this Code.

(m) *Private sewer lines.* Private sewer lines serving two or more buildings or structures located on the same lot or parcel, and all appurtenances thereto, that are not maintained by the City, shall be constructed to meet the City standards of construction of public sewer lines, unless different standards are approved by the Public Works Director.

(n) *Separate connection requirement for each commercial and industrial business.* Separate sewer connection is required for each commercial and industrial business regardless of the single and/or multiple ownership of the property location of the business. For example, if there are four businesses on one property owned by one owner, then four separate sewer connections are required. Exceptions to this requirement may be made by the Public Works Director or Utilities Director on a case-by-case basis as determined to be reasonably necessary. Total fee shall be paid prior to any connection to the POTW pipelines.

(o) *Warranty; indemnity.* In addition to other applicable conditions and requirements, the applicant and/or contractor shall comply with the City's standard specifications and special provisions for warranty and indemnity.

(p) *Septic tank effluent pumping system.* Certain properties within the City may be served by a septic tank effluent pumping (STEP) system, which is located on private property and owned by the subject property owners; however, the City is responsible for the STEP system operation.

(1) The City shall maintain the system, including both preventative maintenance and repair, of all STEP equipment downstream of the house wastewater connection, at the septic tank. Equipment shall include pumps, filters, piping, associated electrical equipment, and other components required to keep the existing STEP system in operation.

(2) It is the responsibility of the property owner(s) to notify the City of Yuba City immediately upon notice of any problems or concerns with the STEP system.

Sec. 6-5.302. Public sewer construction.

(a) *Permits required.* No person shall construct, extend, or connect to any public sewer without first obtaining a written permit from the City and paying all the fees and connection charges and furnishing the bonds as required therein. Such fees shall include, but are not limited to, plan check and inspection fees, which shall be based upon the City's adopted fee schedule. Costs shall be based upon the engineer's estimate or awarded contractor's bid, as approved by the City, and deducting therefrom the amount of any City contribution to the work of construction for oversizing or over-width. The provisions of this section requiring permits shall not be construed to apply to contractors constructing sewers and appurtenances under contracts awarded and entered into by the City.

(b) *Design and construction standards.* The minimum standards for the design and construction of sewers within the City shall be in accordance with the standard specifications and this article. The Public Works Director may permit modifications or may require higher standards where unusual conditions are encountered.

(c) *Plans, profiles, and specifications required.* The application for a permit for public sewer construction shall be accompanied by a complete set of plans, profiles, and specifications, complying with all applicable laws, rules, and regulations of the City, prepared by a civil engineer registered in the State of California, showing all details of the proposed work based on an accurate survey of the ground. The application, together with the plans, profiles, and specifications, shall be examined by the Public Works Director, who shall approve them as filed or require them to be modified as they deem necessary for proper installation. When the Public Works Director is satisfied that the proposed work is proper and the plans, profiles, and specifications are sufficient and correct, they shall order the issuance of a permit predicated upon the payment of all connection charges and fees and furnishing the bonds and deposits as required by the City. The permit shall prescribe such terms and conditions as the Public Works Director finds necessary in the public interest.

(d) *Subdivisions.* The requirements of this chapter shall be fully complied with before any final subdivision map shall be approved by the City. The final subdivision map shall provide for the dedication for public use of streets, easements, or rights-of-way in which public sewer lines are to be constructed.

(e) *Easements or rights-of-way.* In the event an easement is required for the extension of the public sewer or the making of connections, the applicant shall procure and have accepted by the City a proper easement or grant of right-of-way having a minimum width sufficient by law to allow the laying and maintenance of such extension or connection.

(f) *Persons authorized to perform work.* Only properly licensed contractors with all required permits shall be authorized to perform the work of public sewer construction within the City. All terms and conditions of the permit issued by the City to the applicant shall be binding on the contractor. The requirements of this section shall apply to service laterals installed concurrently with public sewer construction.

(g) *Compliance with other regulations.* Any person constructing a sewer within a street shall comply with all State, County, or City laws, ordinances, rules, and regulations pertaining to the cutting of pavement; the opening, barricading, lighting, and protecting of trenches; and the backfilling and repaving thereof, and shall

obtain all permits and pay all fees required by the department having jurisdiction prior to the issuance of a permit by the City.

(h) *"As-built" drawings.* As a condition of final acceptance by the City, copies of "as-built" drawings showing the actual locations and depth of all mains, structures, wyes, laterals, and other changes to the construction drawings shall be filed with the City.

(i) *Completion of sewerage works required.* Before accepting any sewerage works by the City and prior to the admission of any sewage into the system, the sewerage works shall be tested and shall be completed in full compliance with all the requirements of the standard specifications and to the satisfaction of the Public Works Director.

(j) *Reimbursement agreements.* Where the cost of the public sewer main extension has been deposited or paid by the person making such extension, the City may thereafter collect from any person connecting to such extension, except the person originally installing such extension, that portion of the cost of such extension as approved by the City in the reimbursement agreement. All reimbursement agreements shall be approved by Council.

Such sums as are thus actually received by the City shall be paid by the City to the person originally making such extension, but the City shall in no way be obligated to ensure that the person making such extension is paid the total cost thereof nor to initiate any action nor incur any expense to collect any sum to be paid such person; nor shall such refund be made from any other revenues of the City. Where more than one person contributes toward the making of the extension, such sums as are actually collected shall be refunded to such persons, pro rata, according to the amounts which they severally contribute towards the cost of the extension and pursuant to the preceding plan. Reimbursement agreement(s) shall not exceed 15 years in duration or as approved by the City Council.

(k) *Special reimbursement agreement.* Where special conditions exist, in the opinion of the City, relating to any agreement pursuant to this chapter, they shall be the subject of a special contract between the City and the person making the public sewer main extension. Said agreement shall be approved by Council.

(l) *Extent.* All public sewer extensions shall extend to the far property line of developed property, unless otherwise approved by the Public Works Director.

Sec. 6-5.303. Sanitary sewer design requirements.

(a) *Design calculations.* Design calculations submitted for City review shall be in a neat, acceptable form and shall indicate the date and the signature of the supervising engineer and State registration number.

(1) *When required.* Design calculations will be required for all subdivision sewers or where, in the judgment of the Public Works Director, they are necessary. Design calculations shall include all possible sewage flows.

(2) *Sewers and pipelines.* Design calculations for sewers and pipelines shall be presented in tabular form and shall include the following information for each section of sewer: the terminal manhole designation, ground elevations at the terminal manholes, incremental and cumulative tributary areas, incremental and cumulative tributary population, incremental average and maximum domestic sewage flow, incremental infiltration allowance, cumulative design flow, invert elevations of terminal manholes, length of sewer run, and sewer size, slope, capacity, and velocity.

(3) *Pumping stations.* Design calculations for pumping stations shall include soils data, structural design calculations, hydraulic calculations (including the basis for average and peak flows), calculations for wet-well volumes, curves indicating force-main characteristics, and individual and combined pump-head capacity curves.

(b) *Unit design factors.*

(1) *Sewage flow.*

(i) All gravity sewers shall be sized to carry the design peak hour wet weather flow, as predicted by the current hydraulic model of the collection system, at a maximum d/D ration of 0.8.

(ii) 2,000 gallons per acre.

(2) *Approval of estimated flows.* All the estimated flows for any design work should be approved by the Public Works Director.

(c) *Gravity sewers.*

(1) *Minimum size: main sewers.* The minimum diameter for the main sewer shall be 8 in. The use of 6 in. pipe may be authorized subject to the following conditions:

(i) No possibility of future extension;

(ii) Maximum tributary population of 260; and

(iii) Minimum slope on dead-end runs of 0.5%.

(2) *Minimum size; service laterals.* The minimum diameter for sewer services shall be 4 in. For service laterals serving commercial or industrial buildings or multiple family living units, the minimum diameter shall be as required by the applicable sections of the currently adopted Uniform Plumbing Code.

(3) *Minimum slopes.* For service laterals, the minimum slope shall be 2% for 4 in. and one percent for 6 in. pipe. For main sewers, the minimum slope shall be that required to obtain a velocity of 2 ft. per second when the sewer is flowing full or one-half full. Pipelines that are expected to flow less than half-full throughout their life, or for more than ten years, shall be constructed at a greater slope where feasible, in order to promote self-cleaning velocities in the partially full pipe. For the purposes of computing velocity, the Manning's coefficient of roughness "n" shall be .013.

(4) *Steep slopes.* For main sewers installed on steep slopes, special design features may be required. Depending upon conditions of the specific installation, such items as underdrains, check dams, special anchorage, or special pipe material may be required. Based upon the data supplied, the Public Works Director will assess each case and recommend certain special requirements.

(5) *Minimum depth.* The minimum depth of cover for any public sewer shall be 3 ft. If it is impossible to obtain the specified minimum depth, the sewer shall be encased in concrete, or other acceptable protective measures shall be taken. For sewer services, the minimum depths of cover shall be 3 ft. at the property line. Where the minimum depths of cover set forth in this subsection are impossible to obtain, concrete encased pipe or other suitable protection shall be required.

(6) *Manholes.* Manholes shall be provided at every line or grade change and at every point where the sewer changes size. In addition, manholes shall be provided at maximum intervals of 400 ft., in sewers 12 in in diameter and smaller, and 500 ft. in sewers larger than 12 in. in diameter.

(7) *Cleanouts.* Cleanouts will be permitted only on dead-end runs where the length of sewer downstream to the next manhole is less than 300 ft.

(8) *Types of pipe permitted.* The types of pipe permitted for sanitary sewers shall be as indicated in Section 15 of the standard special provisions or as approved by the Public Works Director. The Public Works Director shall make sole determination of the types of pipe permitted for each specific project.

(9) *Cleanouts and sewer services.* Each sewer service shall have a cleanout installed as set forth in the current Uniform Plumbing Code.

(d) *Force mains.* Force mains shall be designed using a Hazen-Williams coefficient of roughness "C" of 100.

(e) *Pumping stations.* Pumping station designs vary according to the location and nature of flows. Each specific design shall be in general accordance with similar designs of existing pumping stations. The design parameters shall be thoroughly reviewed with the Public Works Director prior to commencing with the

detailed design. The Public Works Director shall be the sole judge as to all design features for pumping stations.

(f) *Construction specifications and details.* The construction of sanitary sewers and related facilities shall be in accordance with Sections 13 and 15 of the latest edition of the City standard special provisions and with the applicable City standard drawings.

(1) *Ratio of peak to average flow.* Peaking hours and calculations shall be per the City's current wastewater treatment facility and collection system master plan.

(2) *Industrial sewage flow.* Sewage flow for industrial areas shall be determined per the City's current wastewater treatment facility and collection system master plan.

(g) *Public Works Director's approval.* The Public Works Director shall have the right to change any sanitary sewer design criteria and/or to add additional requirements.

Sec. 6-5.304. Sewer construction inspections.

(a) *All work to be inspected.* All sewer construction work shall be inspected by an inspector acting for the City to ensure compliance with all the requirements of the City. No sewer shall be covered at any point until it has been inspected and passed for acceptance. No sewer shall be connected to the City's public sewer until the work covered by the permit has been completed, inspected, and approved by the inspector. At a minimum, inspections shall take place at the stages listed below:

(1) Installation of bedding material;

(2) Installation of pipe prior to initial backfill (including service laterals);

(3) Installation of initial backfill;

(4) Installation of final backfill; and

(5) Installation of manholes and cleanouts.

All sanitary sewer lines shall be tested between manholes or between manholes and cleanouts by the test methods specified in the City's standard specifications and/or special provisions. Tests for final acceptance shall be made after the line has been backfilled and subgrade compaction requirements have been obtained within the street section. After pressure testing has been completed, all gravity sewer mains shall be cleaned and televised before permanent paving is applied. In addition, sewer manholes shall be vacuum-tested for leakage. Before the sewer lines are accepted, they shall be cleaned and flushed of all foreign matter to the satisfaction of the City. In addition to these requirements, the City reserves the right to perform final cleaning and televised inspection(s), and the applicant shall be responsible to pay all the costs associated with final cleaning and televised inspections. The applicant shall be responsible to correct all defects to the satisfaction of the City and at no cost to the City before acceptance.

Failure to comply with the specifications or meet the minimum requirements may result in rejection of the work.

If the test proves satisfactory to the City and the sewer has been cleaned of all debris accumulated from construction operations, the Public Works Director shall issue a certificate of satisfactory completion.

(b) *Time limits on permits.* If work under a permit is not commenced within six months after the date of the issuance of the permit, or if, after partial completion, the work is discontinued for a period of six months without obtaining a time extension or one year with two six-month time extensions, the permit shall thereupon become void, and no further work shall be done until a new permit has been secured. A new permit, with fee in effect at the time of issuance of the new permit, shall be obtained prior to any additional work.

(c) *Notification.* It shall be the duty of the person doing the work authorized by the permit to notify the Public Works Department that such work is ready for inspection. It shall be the duty of the person doing the work to make sure that the work will stand the tests required by the City before giving such notification.

(d) *Condemned work.* When any work has been inspected and the work condemned and no certification of satisfactory completion given, a written notice to that effect shall be given instructing the owner of the premises, or the agent of such owner, to repair the sewer or other work authorized by the permit in accordance with the laws, rules, and regulations of the City.

(e) *All costs paid by owners.* All costs and expenses incident to the installation and connection of any sewer or other work for which a permit has been issued shall be borne by the owner. The owner shall indemnify the City from any loss or damage that may directly or indirectly be occasioned by the work.

(f) *Street excavation permits.* A separate permit shall be secured from the City, County, and/or State as required by owner(s) or contractor(s) intending to excavate in a public street for the purpose of installing sewers or making sewer connections. A City encroachment permit shall be obtained for work in the City right-of-way, in accordance with Sections 6-1 and 6-2 of this Code.

(g) *Liability.* The City and its officers, agents, and employees shall not be answerable for any liability, injury, or death to any person or damage to any property arising during or growing out of the performance of any work by such applicant. The applicant shall be answerable for, and shall hold the City and its officers, agents, and employees harmless from, any liability imposed by law upon the City or its officers, agents, or employees, including all costs, expenses, fees, and interest incurred in defending the same or in seeking to enforce this provision. The applicant shall be solely liable for any defects in the performance of their work or any failure which may develop therein.

Article 4. Industrial Wastewaters

Sec. 6-5.401. "Industrial user" defined.

"Industrial user" (IU) shall mean any user of publicly owned treatment works identified in the 2007 North American Industrial Classification System (NAICS) or latest edition of that manual (U.S. Census Bureau). Industrial users include, but are not limited to, businesses listed in the following sections of the NAICS:

(a) Agriculture, Forestry, and Fishing and Hunting (Sector 11);

(b) Mining (Sector 21);

(c) Utilities (Sector 22);

(d) Construction (Sector 23);

(e) Manufacturing (Sector 31-33);

(f) Transportation and Warehousing (Sector 48-49); and

(g) Professional, Scientific, and Technical Services (54).

A user in the divisions listed may be excluded if it is determined that it will introduce primarily segregated domestic wastes or wastes from sanitary conveyances.

"Industrial user" shall also mean any discharging "non-domestic source of pollutants into the POTW regulated under Section 307(b), (c) or (d) of the Clean Water Act" or any other indirect discharger regulated under alternative water quality standards.

Sec. 6-5.402. Wastewater discharge permit.

No person shall discharge, or cause to be discharged, any industrial wastewaters directly or indirectly to sewerage facilities owned by the City without first obtaining a City permit for industrial wastewater discharge.

The permit for industrial wastewater discharge may require the pretreatment of industrial wastewaters before discharge, the restriction of peak-flow discharges, the discharge of certain wastewaters only to specified sewers of the City, the relocation of the point of discharge, the prohibition of the discharge of certain wastewater components, the restriction of discharge to certain hours of the day, the payment of additional charges to defray the increased costs of the City created by the wastewater discharge, and such other conditions as may be required to effectuate the purposes of this chapter.

Sec. 6-5.402.A. Reserved.

Sec. 6-5.402.B. Wastewater discharge permit requirement.

(a) No significant industrial user shall discharge wastewater into the POTW without first obtaining a wastewater discharge permit from the ~~Public Works~~ Utilities Director and/or designee, except that a significant industrial user that has filed a timely application pursuant to Section 6-5.402.D of this chapter may continue to discharge for the time period specified therein.

(b) The ~~Public Works~~ Utilities Director and/or designee may require other users to obtain wastewater discharge permits as necessary to carry out the purposes of this chapter.

(c) Any violation of the terms and conditions of a wastewater discharge permit shall be deemed a violation of this chapter and subjects the wastewater discharge permittee to the sanctions set out in Articles 6 and 7 of this chapter. Obtaining a wastewater discharge permit does not relieve a permittee of its obligation to comply with all f~~F~~ederal and s~~S~~tate pretreatment standards or requirements or with any other requirements of f~~F~~ederal, s~~S~~tate, and local law.

Sec. 6-5.402.C. Wastewater discharge permit—Existing connections.

Any user required to obtain a wastewater discharge permit who was discharging wastewater into the POTW prior to the effective date of this chapter and who wishes to continue such discharges in the future, shall, within 90 days after the date, apply to the ~~Public Works~~Utilities Director and/or designee for a wastewater discharge permit in accordance with Section 6-5.402.E of this chapter, and shall not cause or allow discharges to the POTW to continue after 90 days of the effective date of this chapter except in accordance with a wastewater discharge permit issued by the ~~Public Works~~Utilities Director and/or designee.

Sec. 6-5.402.D. Wastewater discharge permit—New connections.

Any user required to obtain a wastewater discharge permit that proposes to begin or recommence discharging into the POTW must obtain such permit prior to the beginning or recommencing of such discharge. An application for this wastewater discharge permit, in accordance with Section 6-5.402.E of this chapter, must be filed at least 90 days prior to the date upon which any discharge will begin or recommence.

Sec. 6-5.402.E. Wastewater discharge permit application contents.

All users required to obtain a wastewater discharge permit must submit a permit application. The ~~Public Works~~ Utilities Director and/or designee may require all users to submit as part of an application the following information:

(a) All information required by Section 6-5.801.B of this chapter;

(b) Description of activities, facilities, and plant processes on the premises, including a list of all raw materials and chemicals used or stored at the facility which are, or could accidentally or intentionally be, discharged to the POTW;

(c) Number and type of employees, hours of operation, and proposed or actual hours of operation;

(d) Each product produced by type, amount, process or processes, and rate of production;

(e) Type and amount of raw materials processed (average and maximum per day);

(f) Site plans, floor plans, mechanical plans, and plumbing plans. Details to show all sewers, floor drains, and appurtenances by size, location, and elevation. All points of discharge and the location of all chemical and/or hazardous materials storage areas;

(g) Time and duration of discharges;

(h) Any other information as may be deemed necessary by the Public Works Director to evaluate the wastewater discharge permit application;

(i) The location for monitoring all wastes covered by the permit; and

(j) An application fee which shall be filed with the completed application. The application fee is listed within the City fee schedule document, as updated each fiscal year.

Incomplete or inaccurate applications will not be processed and will be returned to the user for revision.

Sec. 6-5.402.F. Wastewater discharge permit application signatories and certification.

All wastewater discharge permit applications, user reports, and certification statements must be signed by an authorized representative of the user as defined in Section 6-5.106, and contain the following certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

(a) If the designation of an authorized representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility or overall responsibility for environmental matters for the company, a new written authorization satisfying the requirements of this section must be submitted to the ~~Public Works~~Utilities Director and/or designee prior to or together with any reports to be signed by an authorized representative.

(b) *Annual certification for non-significant categorical industrial users.* A facility that has been determined to be a non-significant categorical industrial user by the ~~Public Works~~ Utilities Director pursuant to Section 6-5.106 must annually submit the following certification statement signed in accordance with the signatory requirements in Section 6-5.106. This certification must accompany an alternative report required by the ~~Public Works~~Utilities Director:

"Based on my inquiry of the person or persons directly responsible for managing compliance with the categorical pretreatment standards under 40 CFR _____, I certify that, to the best of my knowledge and belief that during the period from _____, _____ to _____, _____ [months, days, year]:

(a) The facility described as _____ [facility name] met the definition of a non-significant categorical industrial user as described in 6-5.106;

(b) The facility complied with all applicable pretreatment standards and requirements during this reporting period; and

(c) The facility never discharged more than 100 gallons of total categorical wastewater on any given day during this reporting period.

This compliance certification is based on the following information:

_____

_____"

Sec. 6-5.402.G. Wastewater discharge permit decisions.

The ~~Public Works~~Utilities Director and/or designee will evaluate the data furnished by the user and may require additional information. Within 30 days of receipt of a complete wastewater discharge permit application, the ~~Public Works~~Utilities Director and/or designee will determine whether or not to issue a wastewater discharge permit. The ~~Public Works~~ Utilities Director may deny any application for a wastewater discharge permit.

Sec. 6-5.402.H. Confidential information.

Information and data on a user obtained from reports, surveys, wastewater discharge permit applications, wastewater discharge permits, monitoring programs, and the ~~Public Works~~Utilities Director and/or designee's inspection and sampling activities shall be available to the public without restriction, unless the user specifically requests and is able to demonstrate to the satisfaction of the ~~Public Works~~Utilities Director that the release of such information would divulge information, processes, or methods of production entitled to protection as trade secrets under applicable s~~S~~tate law. Any such request must be asserted at the time of submission of the information or data. When requested and demonstrated by the user furnishing a report that such information should be held confidential, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public, but shall be made available immediately upon request to governmental agencies for uses related to the NPDES program or pretreatment program, and in enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics and other "effluent data" as defined by 40 CFR 2.302 will not be recognized as confidential information and will be available to the public without restriction.

Sec. 6-5.403. Procedure for obtaining city permits for industrial wastewater discharges.

Sec. 6-5.403.A. Wastewater discharge permit duration and fees.

A wastewater discharge permit shall be issued for a specified time period, not to exceed five years from the effective date of the permit. A wastewater discharge permit may be issued for a period less than five years, at the discretion of the ~~Public Works~~Utilities Director. Each wastewater discharge permit will indicate a specific date upon which it will expire.

A discharge permit fee shall be billed annually. The permit fee is listed within the City fee schedule document, as updated each fiscal year.

Sec. 6-5.403.B. Wastewater discharge permit contents.

A wastewater discharge permit shall include such conditions as are deemed reasonably necessary by the ~~Public Works~~Utilities Director and/or designee to prevent pass through or interference, protect the quality of the

water body receiving the treatment plant's effluent, protect worker health and safety, facilitate sludge management and disposal, and protect against damage to the POTW.

(a) Wastewater discharge permits must contain:

(1) A statement that indicates the wastewater discharge permit issuance date, expiration date, duration (which in no event shall exceed five years), and effective date;

(2) A statement that the wastewater discharge permit is nontransferable without prior notification to the City in accordance with Section 6-5.403.E of this chapter, and provisions for furnishing the new owner or operator with a copy of the existing wastewater discharge permit;

(3) Effluent limits, including best management practices, based on applicable general pretreatment standards, categorical pretreatment standards, local limits, and fFederal, sState, and local law;

(4) Self-monitoring, sampling, reporting, notification, and record-keeping requirements. These requirements shall include an identification of pollutants to be monitored, sampling location, sampling frequency, and sample type based on the applicable general pretreatment standards, local limits, and fFederal, sState, and local law;

(5) A statement of applicable civil and criminal penalties for violation of pretreatment standards and requirements, and any applicable compliance schedule;

(6) A schedule such that shall not extend the time for compliance beyond that required by applicable fFederal, sState, or local law;

(7) Requirements to control slug discharge, if determined by the ~~Public Works~~Utilities Director to be necessary; and

(8) Description or schematic representation of the effluent/discharge sampling location on site.

(b) Wastewater discharge permits may contain, but need not be limited to, the following conditions:

(1) Limits on the average and/or maximum rate of discharge, time of discharge, and/or requirements for flow regulation and equalization;

(2) Requirements for the installation of pretreatment technology, pollution control, or construction of appropriate containment devices designed to reduce, eliminate, or prevent the introduction of pollutants into the POTW;

(3) Requirements for the development and implementation of accidental discharge/slug control, countermeasure plans, or other special conditions including management practices necessary to adequately prevent accidental, unanticipated, or non-routine discharges;

(4) Development and implementation of waste minimization plans to reduce the amount of pollutants discharged to the POTW;

(5) The unit charge or schedule of user charges and fees for the management of the wastewater discharged to the POTW;

(6) Requirements for installation and maintenance of inspection and sampling facilities and equipment;

(7) A statement that compliance with the wastewater discharge permit does not relieve the permittee of responsibility for compliance with all applicable fFederal and sState pretreatment standards, including those which become effective during the term of the wastewater discharge permit; and

(8) Other conditions as deemed appropriate by the ~~Public Works~~Utilities Director and/or designee to ensure compliance with this chapter and sState and fFederal laws, rules, and regulations.

Sec. 6-5.403.C. Wastewater discharge permit appeals.

The ~~Public Works~~Utilities Director and/or designee shall provide public notice of the issuance of a wastewater discharge permit. Any person, including the user, may petition the ~~Public Works~~Utilities Director to reconsider the terms of a wastewater discharge permit within 90 days of notice of its issuance.

(a) Failure to submit a timely petition for review shall be deemed to be a waiver of the administrative appeal.

(b) In its petition, the appealing party must indicate the wastewater discharge permit provisions objected to, the reasons for this objection, and the alternative condition(s), if any, it seeks to place in the wastewater discharge permit.

(c) The effectiveness of the wastewater discharge permit shall not be stayed pending the appeal.

(d) If the ~~Public Works~~Utilities Director does not reconsider and subsequently approve the petition to issue a wastewater discharge permit within 90 days, a request for reconsideration shall be deemed to be denied. Decisions not to reconsider a wastewater discharge permit, not to issue a wastewater discharge permit, or not to modify a wastewater discharge permit shall be considered final administrative actions for purposes of judicial review.

(e) Aggrieved parties seeking judicial review of the final administrative wastewater discharge permit decision must do so by filing a complaint with the Superior Court of California, County of Sutter, within 30 days.

Sec. 6-5.403.D. Wastewater discharge permit modification.

The ~~Public Works~~Utilities Director and/or designee may modify a wastewater discharge permit for good cause, including, but not limited to, the following reasons:

(a) To incorporate any new or revised f~~F~~ederal, s~~S~~tate, or local pretreatment standards or requirements;

(b) To address significant alterations or additions to the user's operation, processes, or wastewater volume or character since the time of wastewater discharge permit issuance;

(c) A change in the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

(d) Information indicating that the permitted discharge poses a threat to the City's POTW, City personnel, or the receiving waters;

(e) Violation of any terms or conditions of the wastewater discharge permit;

(f) Misrepresentations or failure to fully disclose all relevant facts in the wastewater discharge permit application or in any required reporting;

(g) Revision of or a grant of variance from categorical pretreatment standards pursuant to 40 CFR 403.13;

(h) To correct typographical or other errors in the wastewater discharge permit; or

(i) To reflect a transfer of the facility ownership or operation to a new owner or operator.

Sec. 6-5.403.E. Wastewater discharge permit transfer.

Wastewater discharge permits may be transferred to a new owner or operator only if the permittee gives at least 30 days' advance notice to the ~~Public Works~~Utilities Director and the ~~Public Works~~Utilities Director approves

the wastewater discharge permit transfer. The notice to the ~~Public Works~~Utilities Director must include a written certification by the new owner or operator which:

(a) States that the new owner and/or operator has no immediate intent to change the facility's operations and processes;

(b) Identifies the specific date on which the transfer is to occur; and

(c) Acknowledges full responsibility for complying with the existing wastewater discharge permit.

Failure to provide advance notice of a transfer renders the wastewater discharge permit void as of the date of facility transfer.

Sec. 6-5.403.F. Wastewater discharge permit revocation.

The ~~Public Works~~Utilities Director and/or designee may revoke a wastewater discharge permit for good cause, including, but not limited to, the following:

(a) Failure to notify the ~~Public Works~~Utilities Director of significant changes to the wastewater prior to the changed discharge;

(b) Failure to provide prior notification to the ~~Public Works~~Utilities Director of changed conditions pursuant to Section 6-5.805 of this chapter;

(c) Misrepresentation or failure to fully disclose all relevant facts in the wastewater discharge permit application;

(d) Falsifying self-monitoring reports;

(e) Tampering with monitoring equipment;

(f) Refusing to allow the ~~Public Works~~Utilities Director or designee timely access to the facility premises and records;

(g) Failure to meet effluent limitations;

(h) Failure to pay fines;

(i) Failure to pay sewer charges;

(j) Failure to meet compliance schedules;

(k) Failure to complete a wastewater survey or the wastewater discharge permit application;

(l) Failure to provide advance notice of the transfer of business ownership of a permitted facility; or

(m) Violation of any pretreatment standard or requirement, or any terms of the wastewater discharge permit, or this chapter.

Wastewater discharge permits shall be voidable upon cessation of operations or transfer of business ownership. All wastewater discharge permits issued to a particular user are void upon the issuance of a new wastewater discharge permit to that user.

Sec. 6-5.403.G. Wastewater discharge permit reissue.

(a) A user with an expiring wastewater discharge permit shall apply for a reissued wastewater discharge permit by submitting a complete permit application, in accordance with Section 6-5.402.E of this chapter, a minimum of 90 days prior to the expiration of the user's existing wastewater discharge permit.

(b) Upon receipt of the complete permit application, the application shall be processed in a timely manner. Upon approval, a reissued discharge permit signed by representatives of the City will be issued, with one copy returned to the applicant.

(c) Failure by the user to submit a complete permit application at least 90 days prior to the expiration of an existing wastewater discharge permit may result in the expiration of that permit prior to approval of the application for a new permit.

Sec. 6-5.404. Industrial wastewater sampling, analysis, and flow measurements.

When requested by the ~~Public Works~~Utilities Director and/or designee, a user must submit information on the nature and characteristics of its wastewater within 90 days of the request. The ~~Public Works~~Utilities Director is authorized to prepare a form for this purpose and may periodically require users to update this information. Minimum detection levels shall be as determined by the ~~Public Works~~Utilities Director.

(a) *Measurement devices.* All dischargers making periodic measurements shall furnish and install at the control manhole or other appropriate location a calibrated flume, weir, flow meter, or similar device approved by the ~~Public Works~~Utilities Director and/or designee and suitable to measure the industrial wastewater flow rate and total volume. A flow indicating, recording, and totalizing register may be required by the ~~Public Works~~Utilities Director and/or designee. In lieu of the wastewater flow measurement, the ~~Public Works~~Utilities Director and/or designee may accept records of water usage and adjust the flow volumes by suitable factors to determine peak and average flow rates for the specific industrial wastewater discharger.

(b) *Inspections of measurement devices.* The sampling, analysis, and flow measurement procedures, equipment, and results shall be subject at any time to inspection by the City. The sampling and flow measurement facilities shall be such as to provide safe access for authorized personnel.

(c) *Measurement frequency.* Those industrial wastewater dischargers required by the ~~Public Works~~Utilities Director and/or designee to make periodic measurements of industrial wastewater flows and constituents shall annually make the minimum number of such measurements required. The minimum requirements for such periodic measurements shall be:

(1) At least one 24-hour measurement per year. Representative samples of the industrial wastewaters shall be obtained at least once per hour over the 24-hour period, properly refrigerated, composited according to measured flow rates during the 24 hours, and analyzed for the specified wastewater constituents;

(2) Dischargers required to sample on only a few days per year shall sample during the periods of highest wastewater flow and wastewater constituent discharges; and

(3) Industrial plants with large fluctuations in quantity or quality of wastewaters may be required to provide continuous samplings and analyses for every working day. When required by the ~~Public Works~~ Utilities Director, dischargers shall install and maintain in proper order automatic flow-proportional sampling equipment and/or automatic analysis and recording equipment.

Measurements to verify the quantities of waste flows and waste constituents reported by industrial dischargers will be conducted on a random basis by personnel of the City.

Sec. 6-5.405. Discrepancies between actual and reported industrial wastewater discharge quantities.

(a) Should measurements or other investigations reveal that the industrial discharger is discharging a flow rate or a quantity of biochemical oxygen demand or suspended solids significantly in excess of that stated in the

industrial wastewater permit or in excess of the quantities reported to the City by the discharger and upon which the industrial wastewater treatment charges are based, the discharger shall apply for an amended industrial wastewater permit and shall be assessed for all delinquent charges, together with the penalty and interest. Before these charges shall be assessed, at least two additional 24-hour samples and flow measurements shall be obtained by the City with all the costs of sampling and analysis to be paid by the discharger.

(b) An industrial discharger found in violation, shall be presumed, in the absence of other evidence, to have been discharging at the determined parameter values over the preceding three years or subsequent to the previous City verification of quantity parameters, whichever period is shorter.

Sec. 6-5.406. Pretreatment of industrial wastewater.

Sec. 6-5.406.A. Pretreatment facilities.

Users shall provide wastewater treatment as necessary to comply with this chapter and shall achieve compliance with all categorical pretreatment standards, local limits, and the prohibitions set out in Section 6-5.208 of this chapter within the time limitations specified by the EPA, the State, or the Public Works Director, whichever is more stringent. Any facilities necessary for compliance shall be provided, operated, and maintained at the user's expense. Detailed plans describing such facilities, including operating and maintenance procedures, shall be submitted to the ~~Public Works~~Utilities Director for review, and shall be acceptable to the ~~Public Works~~Utilities Director before such facilities are constructed. The review of such plans and operating procedures shall in no way relieve the user from the responsibility of modifying such facilities as necessary to produce a discharge acceptable to the City under the provisions of this chapter.

Sec. 6-5.406.B. Additional pretreatment measures.

(a) Whenever deemed necessary, the ~~Public Works~~Utilities Director and/or designee may require users to restrict their discharge during peak flow periods, designate that certain wastewater be discharged only into specific sewers, relocate and/or consolidate points of discharge, separate sewage waste streams from industrial waste streams, and such other conditions as may be necessary to protect the POTW and determine the user's compliance with the requirements of this chapter.

(b) The ~~Public Works~~Utilities Director and/or designee may require any person discharging into the POTW to install and maintain, on their property and at their expense, a suitable storage and flow-control facility to ensure equalization of flow. A wastewater discharge permit may be issued solely for flow equalization.

(c) Grease, oil, and sand interceptors shall be provided when, in the opinion of the ~~Public Works~~Utilities Director, they are necessary for the proper handling of wastewater containing excessive amounts of grease, oil, or sand, except that such interceptors shall not be required for residential users. All interception units shall be of a type and capacity approved by the ~~Public Works~~Utilities Director and/or designee and shall be so located as to be easily accessible for cleaning and inspection. Such interceptors shall be inspected, cleaned, and repaired regularly, according to the manufacturer's guidelines, by the user at their expense.

(d) Users with the potential to discharge flammable substances may be required to install and maintain an approved combustible gas detection meter.

(e) The ~~Public Works~~Utilities Director may deny, condition, and/or limit without restriction new or increased contributions of pollutants or changes in the nature of pollutants, when the discharger does not meet pretreatment standards and the discharge would cause the POTW to violate its NPDES permit.

Sec. 6-5.406.C. Accidental discharge/slug control and countermeasures plans.

(a) Each discharger shall provide protection from the accidental discharge of prohibited materials or other wastes regulated by this chapter. Where necessary, or as directed by the ~~Public Works~~Utilities Director, retention basins, dikes, storage tanks, or other facilities designed to eliminate, neutralize, offset, or otherwise negate the effects of prohibited materials or wastes discharged in violation of this chapter shall be installed.

(b) Dischargers shall notify the City immediately when accidental discharges of wastes in violation of this chapter occur so that countermeasures may be taken by the City to minimize damages to the sewer system, treatment plant, treatment process, or for any fines imposed on the City on account thereof under Water Code § 13350, or for violations of Fish and Game Code § 565.

(c) In the event of an accidental discharge in violation of this chapter, the discharger shall furnish the City, within five days of the date of the occurrence, a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent future occurrences.

(d) In order for employees of dischargers to be more fully informed of City requirements, copies of this chapter shall be permanently posted on bulletin boards of dischargers that shall be easily visible by all employees, together with such other industrial waste information and notices which may be furnished by the City.

(e) Sewer connections within the discharger's plumbing or drainage system shall be appropriately labeled to warn operating personnel against the discharge of any substance in violation of this chapter.

The ~~Public Works~~Utilities Director and/or designee shall evaluate whether each significant industrial user needs a plan or other action to control slug discharges. Significant industrial users must be evaluated within one year of being designated a significant industrial user. For purposes of this subsection, a slug discharge is any discharge of a non-routine, episodic nature, including, but not limited to, an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause interference or pass through, or in any other way violate the POTW's regulations, local limits, or permit conditions. The results of such activities shall be available to the approval authority upon request. Significant industrial users are required to notify the POTW immediately of any changes at its facility affecting potential for a slug discharge. If the POTW decides that a slug control plan is needed, the plan shall contain, at a minimum, the following elements:

(1) Description of discharge practices, including non-routine batch discharges;

(2) Description of stored chemicals;

(3) Procedures for immediately notifying the ~~Public Works~~Utilities Director of any accidental or slug discharge, as required by Section 6-5.806 of this chapter; and

(4) Procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants including solvents, and/or measures and equipment for emergency response.

Sec. 6-5.406.D. Hauled wastewater.

(a) All persons owning vacuum or "cesspool" pump trucks or other liquid waste transport trucks and desiring to discharge septic tank, seepage pit, interceptor, or cesspool contents, industrial liquid wastes, or other liquid wastes to sewerage facilities of the City or to facilities that discharge directly or indirectly to such sewerage facilities shall first obtain a septage waste disposal general permit. All applicants for coverage under the septage general permit shall:

(1) Complete the application form;

(2) Pay the appropriate fee;

(3) Receive a copy of the City regulations governing discharges to sewers of liquid wastes from trucks;

(4) Agree, in writing, to abide by these regulations.

(b) The septage waste disposal general discharge permit shall be valid for the time period listed therein and in no case shall the permit exceed five years.

(c) Any person negligently or willfully violating the City requirements for liquid waste discharges from trucks shall be in violation of this chapter and may have their permit revoked by the ~~Public Works~~Utilities Director.

(d) Septic tank waste may be introduced into the POTW only at locations designated by the ~~Public Works~~Utilities Director, and at such times as are established by the ~~Public Works~~Utilities Director. Such waste shall not violate Article 2 of this chapter or any other requirements established by the City.

(e) The ~~Public Works~~Utilities Director and/or designee shall require haulers of industrial waste to obtain wastewater discharge permits. The ~~Public Works~~Utilities Director may require generators of hauled industrial waste to obtain wastewater discharge permits. The ~~Public Works~~Utilities Director also may prohibit the disposal of hauled industrial waste. The discharge of hauled industrial waste is subject to all other requirements of this chapter.

(f) Industrial waste haulers may discharge loads only at locations designated by the ~~Public Works~~Utilities Director. No load may be discharged without prior consent of the ~~Public Works~~Utilities Director. The ~~Public Works~~Utilities Director and/or designee may collect samples of each hauled load to ensure compliance with applicable standards. The ~~Public Works~~ Utilities Director may require the industrial waste hauler to provide a waste analysis of any load prior to discharge.

(g) All septage waste haulers must provide a waste-tracking form for every load. This form shall include, at a minimum, the name, telephone number, and address of the septage waste hauler, permit number, truck identification, names, addresses, and telephone numbers of sources of waste, and volume and characteristics of waste. The form shall identify the type of industry, known or suspected waste constituents, and whether any wastes are RCRA hazardous wastes.

(h) All septage waste haulers must provide, at the time of permit approval, a City of Yuba City business license, current vehicle registration, truck capacity certification for each truck listed, current Yuba and/or Sutter County "sewage pumper vehicle" permit and proof of general liability insurance (bodily injury, personal injury and property damage) and automobile liability insurance in the amount of $1,000,000 each per occurrence or accident. These amounts may change to reflect the most current City-mandated insurance requirements. The septage waste haulers shall be responsible to provide proof of all these insurance documents including endorsements per City insurance requirements. The City's current insurance requirements can be obtained from the Pretreatment Coordinator.

The City's ~~Public Works~~Utilities Department shall be exempt from these requirements.

Sec. 6-5.407. Measurement of industrial waste.

Any industrial or commercial user may be required to provide a metering device acceptable to the City, at the user's expense, to permit the accurate determination of the volume of wastewater discharged into the City sewage system. Where the sewage flow is not measured, and unless other arrangements are agreed upon in advance, the volume of sewage flow shall be taken as the metered water consumption. At the option of the Utilities ~~Public Works~~ Director, when the sewage flow is not substantially different than the metered water consumption, the volume of waste for payment may be determined by special agreement or by the use of sewage flow meters installed and maintained by qualified personnel at the user's expense.

Sec. 6-5.408. Industrial wastewater charges.

~~(a) *General.* The capital interest and costs shall be determined by the required plant capacity of each industrial user. The major industrial users at the time of adoption of this chapter, Sunsweet Growers, Yuba City Cogeneration, Valley Fine Foods and Greenleaf II, in addition to the operations and maintenance charges, shall pay for the debt service and capital replacement in accordance with their existing contracts with the City and in accordance with the 2016 Wastewater Rate Study. The maximum wastewater charges for industrial wastewater related to the debt service and capital replacement per the rate study are shown in the following tables; however, the actual rates shall be as approved by Council. The Public Works Director shall have the authority to negotiate and execute new agreements with new industrial users for the debt service and capital replacement costs based on the current rate study and as approved by the City Council.~~

~~**Sunsweet Growers Inc.—Wastewater Charges for Debt Service and Capital Replacement**~~

~~Category~~	~~Maximum Rates~~
~~Debt Service~~	~~$7,680.00~~
~~Capital Replacement~~	~~$35,304.00~~

~~**Yuba City Cogeneration—Wastewater Charges for Debt Service and Capital Replacement**~~

~~Category~~	~~Maximum Rates~~
~~Debt Service~~	~~$790.27~~
~~Capital Replacement~~	~~$600.00~~

~~**Valley Fine Foods Company—Wastewater Charges for Debt Service and Capital Replacement**~~

~~Category~~	~~Maximum Rates~~
~~Debt Service~~	~~$562.94~~
~~Capital Replacement~~	~~$1,848.12~~

~~**Greenleaf II—Wastewater Charges for Debt Service and Capital Replacement**~~

~~Category~~	~~Maximum Rates~~
~~Debt Service~~	~~$1,126.66~~
~~Capital Replacement~~	~~$600.00~~

(a~~b~~) *Industrial user rates.* Industrial users fees and charges will be shall be established in the City's fee schedule (also known as a master fee schedule), which may be updated or amended by resolution. Maximum rate and fee limits established by the Proposition 218 process shall also be adopted by resolution. ~~charged the rates stated in the most recent wastewater rate study/revenue program as adopted by the Council, which charges shall reflect the user's contribution to the total wastewater loading of the treatment works and will recognize volume, BOD, and suspended solids (SS) to ensure a proportional distribution of costs to each user. The maximum industrial user rates are shown in the table below in accordance with 2021~~6 Wastewater Rate Study and approved following the Proposition 218 process. However, the City Council retains the authority to set the actual rates each fiscal year~~by~~ Resolution~~, which may be found in the City's annual fee schedule on the City's website. The Public Works Director shall have the authority to negotiate and execute new agreements with new industrial users for user rates based on the latest wastewater rate study and the rates as set by Council.~~

Category	Fiscal Year 2027	Fiscal Year 2028	Fiscal Year 2029	Fiscal Year 2030	Proposition 218 Maximum RatesFiscal Year 2031
Flow Charge (per million gallon)	$7,778.51	$8,984.18	$9,613.07	$10,285.99	$3,763.63 $10,748.86
BOD Charge (per lb.)	$0.423	$0.488	$0.523	$0.559	$0.385 $0.584
SS Charge (per lb.)	$0.433	$0.501	$0.536	$0.573	$0.290 $0.599

(c) *Billing period.* During each fiscal year, there will be 13 four-week billing periods. The Finance Director may divide the annual cost into 13 equal billings and combine the user's share of operation and maintenanceuser costs, plus any assessment for additional costs caused by the user discharging wastewater in violation of the provisions of this chapter.

(d) *Payment of charges and delinquent charges.* All fees and charges imposed under the provisions of this chapter shall be due and payable upon the receipt of the notice of charges. Unpaid charges shall become delinquent 60 days after mailing or delivering the notice of charges. A basic penalty charge of 10% of the unpaid amount shall be added to any fee or charge which becomes delinquent. Interest at the rate of 2% per month shall accrue on the total of all delinquent charges, plus all penalty charges.

(e) *Determination of charges.*

(1) *Capacity.* The actual plant capacity for each industrial user will be determined by the highest daily volume, pounds of BOD, and pounds of suspended solids discharged into the sanitary sewer system measured by averaging the highest three consecutive days during the prior fiscal year. The three determining factors for industrial capacity will not necessarily peak during the same period. New industrial users will estimate their plant capacity requirements and make periodic deposits as determined by the Finance Director during their first year of operation with an adjustment billing or credit, whichever the case may be, within 30 days after the end of the fiscal year. If the period of operation during the first fiscal year is not sufficient to determine a plant capacity, the second-year operation capacity requirements will be used as if the industry was a new user in that year. The Public Works Director shall have the authority to negotiate and execute new agreement with the new industrial users for the debt service and capital replacement costs.

(2) *Actual discharges.* The Industrial operation and maintenancesewer service chargesosts will be based on the actual volume, pounds of BOD, and suspended solids. It will be the industrials user's responsibility to provide composite samples of its discharges for determining the BOD and suspended solid testing.

Each sample shall be marked with the beginning and ending meter reading of the volume discharge during the period the composite sample was taken. The volume measured by the meter readings and the test results of the composite samples will be used to calculate the pounds of BOD and suspended solids and will be the basis of the billing operation and maintenance charges. If there are time periods when the meter readings of the composite samples are not consecutive, the City, at its sole discretion, will determine the parts per million (ppm) of the BOD and suspended solids for that volume that a sample was not received.

(3) *Conversion factors.*

Cubic feet × 7.48 = gallons

Pounds per day (BOD or suspended solids) = test results (mg/L) × 8.34 × flow (million gallons per day; MGD)

Article 5. Sewer Service Charges

Sec. 6-5.501. Charges for service.

(a) All charges for the extension of, connection to, and use of the City sewerage system shall be in accordance with the provisions of this article, and shall be set by resolution.

(b) No facilities or services of the City sewerage system shall be furnished to any premises or to any person free of charge, except the City.

(c) Beginning in 2017, all the charges related to the use of City sewerage collection and treatment system set out in Sections 6-5.408(b), 6-5.507(c) and 6-5.507(d) of this chapter will be reviewed by the City Council on an annual basis as part of the fiscal year budget review process, prior to the July 1 implementation of the increase for each year. The City Council will retain the authority to set by Rresolution the actual rates less than the maximum rates set out in Sections 6-5.408(b), 6-5.507(c) and 6-5.507(d) of this chapter.

Sec. 6-5.502. Payment of charges.

Before connecting any premises to the City sewerage system, the owner, subdivider, or developer of such premises shall make provisions satisfactory to the Finance Director for the payment of all charges.

Sec. 6-5.503. Sewer connection charges.

(a) *Purpose.* The purpose of the sewer connection charge is to have the property owner pay their proportionate cost of the sewerage system, including the wastewater treatment facility and sewer collection system lines identified in the wastewater treatment facility and collection system master plan.

(b) *Collection.* The connection impact fees shall be paid at the option of the developer/applicant at either the issuance of the building permit or at certificate of occupancy for a proposed development project, not at the date of application for a permit. The amount of the impact fees to be paid shall be those fees in effect at the time the fees are paid at either the issuance of a building permit or certificate of occupancy. Exceptions to this requirement may be negotiated between the developer and the City as part of the entitlement and agreement process, subject to City Council approval. The City may require the developer/applicant to pay, as determined by the Public Works Director, inspection fees at the time of building permit.

In case of expansions and/or alterations of the premises, a sewer connection impact charge shall be collected at the time of building permit issuance of:

(1) The expansion and/or use of the premises which requires additional sewer facilities; and

(2) The construction or alteration of the premises which changes the parcel use to a higher sewer demand.

For the customers currently not on the City's sewer system, the connection impact fees, including any regular and special permit and inspection fees, shall be charged at the time of connection permit issuance for the connection to the City's sewer system.

(c) *Schedule of charges.* The sewer connection impact charge shall be as set forth in the City's fee schedule and Section 6-5.507 of this code.

(1) *Multiple units; other facilities.* For multiple units, the connection impact fee shall include any common facilities, such as laundry rooms and recreation areas, that would normally be provided as support facilities with multiple dwellings; however, for other facilities that are not the primary support of the multiple dwellings, there shall be an additional fee computed on the basis of the fixture units as hereinafter provided for commercial, industrial, public, and other uses or as determined by the Public Works Director or Utilities Director.

(2) *Commercial and industrial users.* Drainage system fixture units, as set forth in the Uniform Plumbing Code adopted by the City, for commercial users and for industrial users are not included under the provisions of Article 4 of this chapter. If at any time after the payment of the connection charge there is a change of use on the premises, there shall be an additional connection charge calculated at the per fixture unit rate for the number of additional fixture units installed.

(3) *Industrial users.* Connection charges for industrial users shall be determined in accordance with the City's fee schedule and Article 4 of this chapter.

Sec. 6-5.504. Sewer extension charges.

(a) *Purpose.* The purpose of the sewer extension charge is to reimburse the City for its cost to extend the main sewer.

(b) *Collection.* The sewer extension charge for a main sewer installed by the City shall be collected before a person may connect their property to the City sewerage system.

(c) *Schedule of charges.* The sewer extension charge provides for the extension of mains. The charge shall be as set forth ~~annually~~ in the City's fee schedule.

Corner lots and lots having more than one frontage where sewer facilities exist or are planned shall pay extension fees based on 60% of the first 175 ft. of total frontage (as measured to the point of intersection of the property lines or the point of intersection of the prolongation of the property lines) and 100% of all frontage in excess of the first 175 ft.

Such reduction shall apply to existing corner lots and shall not apply to corner lots which would be created by new subdivisions, parcel maps, or developments. Such parcels shall pay extension fees based on 100% of all applicable frontage as measured prior to the creation of the side street.

Extension fees will not be applicable to lands within a subdivision or special assessment district if the sewer main was installed at no cost to the City (other than oversizing costs) unless an agreement exists providing for the repayment of extension costs to the original developer or to the special district.

Where substantial evidence indicates that the sewer main was installed at no cost to the City (other than oversizing costs) by special assessment district, a subdivider, developer, or other person, main extension charges shall not be applicable unless set forth in an agreement providing for the repayment of extension to the original installer.

Where a sewer main only serves property on one side of the sewer line, the charge shall be double the current extension charge.

(d) *Agreements.* A property owner, subdivider, or developer may extend the main sewer at his or her own expense in accordance with a reimbursement agreement approved by the Council.

(e) *Outside users.* The sewer extension charges for all users whose property is outside the City limits shall be the same as the charges applicable if the user were within the City limits.

(1) Outside users must execute an extraterritorial agreement with the City prior to extension of the sewer to premises outside the City limits.

Sec. 6-5.505. Sewer service charges.

(a) *Purpose.* The purpose of the sewer service charge is to provide necessary revenue to operate the sewerage system as a self-sustaining operation.

(b) *Collection.* The sewer service charge shall be collected as follows:

(1) On premises served with City water, the billing of sewer service charges shall be added to the charges for water service, and the payment and collection of the total amount shall be made in accordance with the City's fee schedule and the provisions of Title 6, Chapter 6 of this Code regulating the payment of water service charges.

(2) On premises not served with City water, the billing and collecting of sewer service charges shall be made as determined by the Finance Director if not otherwise set by the City's fee schedule document.

(c) *Schedule of charges.* The sewer service charge for property connected to the sewerage system shall be billed in accordance with the rates established in the City's fee schedule, as set ~~annually~~ by the City Council.

(d) *Reserved for future use.*

(e) *Septage waste disposal general discharge permits.* The charge for truckers discharging to the municipal sewer system shall be listed in the City fee schedule ~~document~~ and in accordance with the rates established in Section 6-5.507.

Sec. 6-5.506. Meters may be required.

All sewer services may be metered at the discretion of the City. The ~~Public Works~~Utilities Director may require any user, at their sole expense, to install a meter. The meter shall be approved by the ~~Public Works~~Utilities Director before installation.

Sec. 6-5.507. Summary of charges.

~~All the latest and~~Fees and current charges shall be found in the City's fee schedule ~~document~~(also known as the master fee schedule) which may be amended or updated by resolution. Maximum rate and fee limits established by the Proposition 218 process shall also be adopted by resolution. ~~The City updates the fee schedule document annually and posts it on the City's website. This section shows the applicable fee categories, which will be reviewed and adjusted by the City Council annually.~~

~~Beginning in 2017, all charges related to the use of City wastewater treatment and collection system set out in this section will be reviewed by the City Council on an annual basis as part of the fiscal year budget review process, prior to the July 1 implementation of the increase for each year~~periodically to confirm alignment with budgetary needs and desired implementation~~. The City Council will retain authority to set by R~~resolution the actual rates less than the maximum rates set out in this section.

(a) *Sewer connection charge type.*

(1) Single-family residential users, calculated per unit.

(i) Single-family users are defined as single-family dwelling units, including any accessory dwelling units which do not exceed 750 square feet as part of the single-family dwelling unit.

(ii) An accessory dwelling unit (ADU) shall be defined as per Municipal Code Section 8-5.5001. The ADU shall not alter the character of the principal use of the parcel, e.g., residential.

(2) Multi-dwelling users, calculated per unit.

(i) Multi-dwelling users include: duplexes, single-family dwelling units plus any accessory dwelling units exceeding 750 square feet and two or more apartments, mobile homes, or trailers on one parcel.

(3) Commercial and industrial users as defined in the Uniform Plumbing Code and applicable to users other than as defined in Article 4 of Chapter 5 of Title 6 of this Code, calculated per fixture unit.

(i) The charges to a commercial user will be based on the applicable base charge as shown in the table below plus the flow charge for the actual water usage.

(ii) Commercial User Monthly Charge = Base Charge + (Flow Charge x actual water usage in 100 CF).

(iii) Mixed-use parcels, consisting of both commercial and residential components, shall only be charged the commercial surcharge after the residential baseline has been reached.

(4) Any customer that paid a connection impact fee prior to July 1, 2000 may complete the project at any time and is not subject to connection impact charge rate adjustments or credit of interest. Any connection impact charges paid on July 1, 2000, or later, and the project is completed within 18 months, will not be subject to any additional connection impact charges or interest credits. A project is deemed completed when all building permits are paid and a final inspection report is issued or as determined by the Public Works Director. Any connection charges paid on July 1, 2000, or later and the project is not completed within 18 months will be subject to the connection impact charge in effect at the time of project completion, and will be entitled to interest credit as to any connection impact charge increases. Interest will only be allowed as a credit toward connection impact charges increases and, in no event, shall customer be entitled to any refund of interest. Interest will accrue, beginning 18 months after the initial purchase, based on the initial connection charge payment. Interest payment will be credited semi-annually on January 1 and July 1 based on the previous average semi-annual rate of the local agency investment fund administered by the California State Treasury. Connection permits or charges cannot be sold or transferred between any parties other than Yuba City.

(b) *Extension charges.* Sewer extension charges as per the City's fee schedule and Section 6-5.504 of this Code are calculated per front foot, and can be found in the City's annual fee schedule.

(c) *Sewer service charges.* Sewer service charges are as set in the City's fee schedule. ~~The charts below enumerate the maximum charges authorized following the 20216 Proposition 218 process. Actual rates are subject annually to Council approval, and may be found in the City's annual fee schedule, located on the City's website and effective dates are subject to Council approval and shall be established via Resolution~~. No credit shall be allowed for vacancy.

~~**Single-Family Users Flat Rate Service Charge per Month per Unit**~~

	~~Fiscal Year 2027~~	~~Fiscal Year 2028~~	~~Fiscal Year 2029~~	~~Fiscal Year 2030~~	~~Proposition 218 Maximum RatesFiscal Year 2031~~
~~Charge/month~~	~~$67.56~~	~~$78.03~~	~~$83.49~~	~~$89.34~~	~~$65.27~~ ~~$93.36~~

Multi-Dwelling Units Flat Rate Service Charge per Month per Unit

	Fiscal Year 2027	Fiscal Year 2028	Fiscal Year 2029	Fiscal Year 2030	Proposition 218 Maximum RatesFiscal Year 2031
Charge/month	$54.05	$62.42	$66.79	$71.47	$52.23 $74.69

Commercial Monthly Rate Service Charge per Month (Base Charge + Flow Charge)

	Fiscal Year 2027	Fiscal Year 2028	Fiscal Year 2029	Fiscal Year 2030	Proposition 218 Maximum RatesFiscal Year 2031
Base Rate	$67.56	$78.03	$83.49	$89.34	$93.36
C1 Flow Rate (per 100 CFBase Charge)*	$3.90	$4.50	$4.82	$5.15	$65.27 $5.39
C2 Flow Rate (per 100 CFBase Charge)*	$4.42	$5.11	$5.47	$5.85	$73.44 $6.11
C3 Flow Rate (per 100 CFBase Charge)*	$7.07	$8.17	$8.74	$9.35	$88.95 $9.77
Flow Charge* (per 100 CF)					$2.57

Category C1 users are low-strength commercial customers, which shall include include the user types listed below. The Public WorksUtilities Director shall have the right to expand the list or to move any listed type to a different category.

- Retail/office
- Auditorium/hall
- Storage
- Church
- Animal shelter
- Beauty/barber shop
- Florist
- Library
- Day care
- Bowling alley

~~Medical office~~

~~Fitness center~~

~~Laundromat~~

~~Car wash~~

~~Fairgrounds~~

~~Hospital~~

~~Municipal jail~~

~~Theatre/cinema~~

~~Veterinary clinic~~

~~Gas station (no market/disposal)~~

~~Bakery/deli/café (no disposal)~~

~~Restaurant/bar (no disposal)~~

~~Assisted living/convalescent hospital~~

~~*Category C2* users are medium-strength commercial customers, which shall include the user types listed below. The Public WorksUtilities Director shall have the right to expand the list or to move any listed type to a different category.~~

~~Bed/breakfast~~

~~Hotel/motel~~

~~Dry cleaners~~

~~Auto sales~~

~~Autobody shop~~

~~Funeral home~~

~~*Category C3* users are high-strength commercial customers, which shall include the user types listed below. The Public WorksUtilities Director shall have the right to expand the list or to move any listed type to a different category.~~

~~Fast food~~

~~Market~~

~~Gas station (with market)~~

~~Bakeries and delis (with disposal)~~

~~Restaurant/bar (with disposal)~~

(d) *Sewer service charges for schools.* Fees and charges for schools are as set by the City's fee schedule, and are subject to the following:~~The maximum sewer service charges authorized following the 20216 Proposition 218 process for schools are listed in the table below.~~ The City Council retains the authority to set the actual rates by Resolution, which may be found in the City's annual fee schedule on the City's website. ~~Actual rates are subject annually to Council approval, and may be found in the City's annual fee schedule on the City's website.~~

(1) Sewer service charges for schools are calculated per student per year. This is represented by average daily attendance for the past school year for number of students.

(2) Yuba City Unified School District is billed once per year after July 1 for the previous year.

Per Student Service Charge per Year for Schools

	Fiscal Year 2027	Fiscal Year 2028	Fiscal Year 2029	Fiscal Year 2030	Proposition 218 Maximum RateFiscal Year 2031
Charge/Year	$31.39	$36.26	$38.80	$41.51	$29.97 $43.38

(e) *Septic haulers/truckers discharge charges.* Septic tank trucks discharging at the City wastewater treatment plant shall be charged a volumetric rate as set by the City's fee schedule subject to the following: to cover the costs of treatment, maintenance, administration, and other costs associated with the septage hauler program. The maximum rates for price per gallon and minimum charges are shown in the table below; actual rates shall be set by Council each fiscal yearby Resolution and can be found in the City's annual fee schedule on the City's website.

(1) Minimum charge per dump shall be equal to or greater than 400 gallons per dump.

(2) The 2016 Proposition 218 process established maximum charges uusing the following formula based on the 10,000-gallon monthly average wastewater flow estimate for single-family dwelling unit and 77% of the service charges of treatment and disposal of septage including administration and pretreatment. The maximum rates for price per gallon and minimum charges are shown in the table below; actual rates shall be set by Council each fiscal year and can be found in the City's annual fee schedule on the City's website. The charge per gallon is calculated per the formula below.

$$Charge\ per\ Gallon\ (\$) = \frac{Monthly\ Single\ Family\ Unit\ Charge\ X100\ X\ 77\%\ (\$)}{10{,}000\ (gallon)}$$

(1) Minimum charge per dump shall be greater than 400 gallons per dump.

Septic Discharge Charges per Gallon

	Proposition 218 Maximum Rates
Charge ($) per gallon	0.502
Minimum Charge ($) 400 gallons per dump	$200.99

(f) *Permitted industrial user charges.* Industrial users permitted through the City's pretreatment program shall be required to pay the charges in accordance with the City's fee schedule and Section 6-5.408 of this chapter, as approved annually by City Council.

(g) *Annual adjustments.* Annually on July 1 of each year, fees and charges in Sections 6-5.507(a), 6-5.507(b), and 6-5.508 shall be adjusted based on the previous April value of the Twenty City Average of Engineering News Record Construction Index.

(h) The wastewater discharge permit fees in reference to Section 6-5.403.A shall be as set by the City's fee schedule. adjusted annually based on the wastewater service charge increases. The following table enumerates the maximum charges authorized following the 2016 Proposition 218 process. Actual rates

~~are subject annually to Council approval, which may be found in the City's annual fee schedule on the City's website.~~

~~(1) Industrial users with more than one wastewater effluent discharge monitoring point shall be assessed an additional $500 annual fee per additional effluent monitoring point.~~

~~**Wastewater Discharge Permit Fee Schedule**~~

~~Category~~	~~Proposition 218 Maximum Rates~~
~~Non-significant Categorical Industrial User~~	~~$659.71~~
~~Permitted Industrial User~~	~~$1,048.38~~
~~Groundwater~~	~~$1,048.38~~
~~Septic Hauler~~	~~$659.71~~
~~Significant Industrial User~~	~~$1,677.41~~

(i) *Outside City user's charges.* ~~Reserved for future use.~~Outside City user's charges shall be as set by the City's fee schedule.

Sec. 6-5.508. Special sewer connection fee.

All charges contained in this section shall be found in the City's fee schedule document.

(a) *Purpose and application.* A special sewer connection fee shall be applied solely and strictly to the service area known as "Sewer Trunk Line Facilities for West Yuba City Area" in accordance with the City Resolution 02-097 dated July 16, 2002. The Sewer Trunk Line Facilities for West Yuba City Area Map is on file at the office of the Public Works Director. The general boundaries of the service area are: Pease Road to the north, Bogue Road to the south, Township Road to the west and variable locations, west of State Route 99, to the east.

(b) *Schedule of special connection fee and collection thereof.* All the latest and current charges shall be found in the City's fee schedule document. ~~The City updates the fee schedule document annually and posts it on the City's website.~~ The charges shall be divided into two categories:

West Yuba City sewer trunk, residential, calculated per lot.

West Yuba City sewer trunk, commercial, calculated per plumbing fixture unit.

Sec. 6-5.509. Assessment installments in lieu of payment of wastewater fees.

(a) *Purpose/findings/definitions.*

(1) *Purpose.*

(i) To authorize and establish a procedure for levying assessment installments in lieu of payment of fees associated with the initial extension and connection of sanitary sewer service as outlined in Section 6-5.3, Rules and regulations and Section 6-5.5, Sewer service charges.

(2) *Findings.*

(i) There remain within the City's sphere of influence a number of residential and non-residential premises which are still being served by private septic systems rather than being connected to the City wastewater collection system.

(ii) One means of facilitating connection of the premises to the City wastewater system is to provide the owners of such premises with an alternate means of financing the wastewater extension and connection fees for assessment installments in lieu of lump sum payment of the fees, which ordinarily become due and payable at the time of connection of the premises to the City wastewater system and before service is established, per the provisions of Section 6-5.503, Sewer connection charges and Section 6-5.504, Sewer extension charges.

(iii) The intent in enacting this section of this Code is to provide such financial assistance by allowing payment of such fees over a ten-year period through the levying of assessment installments in lieu of payment of wastewater fees in the manner provided for by this section.

(3) *Definitions.* The following words, terms, and phrases, when used in this section, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

(i) *Wastewater fees* shall mean any and all fees and charges associated with the extension and connection of new regular wastewater services, as described in Section 6.5.5, Sewer service charges.

(ii) *Assessment installments* shall mean the assessments levied on the property's taxes over a ten-year period following approval by the City Council and direction to the County Auditor. This shall include any interest thereon or subject administrative fees.

(iii) *Engineer* shall mean the City Engineer, who may also be the Public Works Director.

(iv) *City wastewater service area* shall mean the area within the City's incorporated limits and sphere of influence which is or may be served by the City wastewater collection system.

(b) *Applicability.* The provisions of this section shall apply to and authorize the levy of assessment installments in lieu of payment of wastewater fees for the following residential and non-residential premises within the City wastewater service area connecting to the City wastewater collection system:

(1) *Premises within the incorporated territory of the City of Yuba City.* Where premises connecting to the City wastewater collection system are located in that part of the City wastewater service area within the incorporated territory of the City, this section shall authorize the levy of assessment installments in lieu of payment of wastewater fees if, and only if, such assessment has been approved and authorized by the City Council, and if such premises are presently being served by a private septic system, it will be abandoned entirely per the regulations and requirements of Sutter County Environmental Health.

(2) *Premises within the City's sphere of influence in the County of Sutter.* Where the premises being connected to the City wastewater collection system are located in that part of the City wastewater service area within the City's sphere of influence in the County of Sutter, this section shall authorize the levy of assessment installments in lieu of payment of wastewater fees if, and only if, such assessment has been approved and authorized by the City Council; if such premises are presently being served by a private septic system, it will be abandoned entirely per the regulations and requirements of Sutter County Environmental Health; and upon execution of an extraterritorial agreement with the City.

(c) *Petition for levying assessment installments in lieu of payment of wastewater fees.*

(1) Proceedings for levying assessment installments in lieu of the payment of wastewater fees shall be initiated by a petition filed in the office of the Engineer.

(2) Such petition shall describe the premises to be connected to the City wastewater collection system by street address or other method sufficient to enable the Engineer to identify the location and boundaries of such premises; shall include a declaration that if such premises are presently being

served by a private septic system, it will be abandoned entirely per the regulations and requirements of Sutter County Environmental Health; and shall be signed by and set forth the mailing address of all persons owning an interest in the fee title to the premises.

(3) Any such administrative or operational costs incurred by the processing of the petition in the manner provided for by this section may be charged as a petition fee at the discretion of the Engineer.

(d) *Report of Engineer on assessment petition.*

(1) Following receipt of an assessment petition, the Engineer shall promptly cause a report to be made on the petition.

(2) The report shall set forth the following:

(i) A description of the premises which are the subject of the petition both by legal description and assessor's parcel number;

(ii) The name and mailing address of all persons owning an interest in the fee title to such premises;

(iii) A determination as to whether the premises are located in that part of the City wastewater service area within the incorporated territory of the City or that part of the City wastewater service area within the City's sphere of influence in the County of Sutter;

(iv) A computation of the total amount of the wastewater fees which would become due and payable in accordance with the provisions of Sections 6-5.5 of this chapter at the time of connection of the premises to the City wastewater collection system and before service is established; and

(v) A schedule of the assessment installments to be levied against the subject premises in order to pay all such wastewater fees, together with interest and an administrative fee thereon, in ten annual installments, all at the time, in the amounts, and in the manner hereinafter provided by this section.

(3) Following completion of such report, the Engineer shall cause the petition and report to be brought before the City Council for consideration for approval and authorization.

(e) *Consideration of assessment petition by City Council.*

(1) On the date and at the time of the City Council meeting on the assessment petition, the City Council shall consider the assessment petition, the report of the Engineer on the assessment petition, and any other relevant matters bearing on the petition and/or the assessment installments to be levied in lieu of payment of wastewater fees pursuant to the assessment petition.

(2) Following consideration, of the assessment petition and report, the City Council may, by resolution:

(i) Grant the petition and levy assessment installments in lieu of payment as outlined herein this section;

(ii) Direct the City Manager, Engineer, Finance Director, and any other necessary staff to conduct any required action(s);

(iii) Approve an extraterritorial agreement in cases where the subject premises fall outside of City limits but within the City's sphere of influence.

(f) *Establishment of assessment installments.*

(1) Upon receipt of a certified copy of a resolution of the City Council levying assessment installments in lieu of payment of wastewater fees, the Engineer shall cause the resolution to be recorded in the official records of the County of Sutter.

(2) After the date of such recordation, the assessments provided for by such resolution shall constitute a lien upon the premises which are the subject of the resolution which shall have the priority and effect of an assessment lien as provided for by Article 13, Chapter 4, Part 1, Division 2, Title 5 of the California

Government Code (commencing with Section 53930) or any other law of the State of California applicable to assessment liens levied by a municipality.

(3) Following recordation, the Engineer shall ensure that such resolution be transmitted to the Sutter County Auditor with the request that the assessment installments levied by the resolution be added to the County tax rolls at the time and manner provided therein.

(4) Thereafter, all assessment installments provided for in the resolution which become due in any year, together with all interest thereon, shall be payable in the same manner and at the same time that general taxes of the County on real property are payable, and such assessment installments and all interest and fees thereon shall become delinquent at the same time and bear the same proportional penalty and interest after delinquency as do the general taxes of the County on real property.

(g) *Assessment installments.*

(1) *Timing of payment.* Assessments in lieu of the payment of wastewater fees, including interest thereon and any required administrative fees, shall be levied in ten equal installments of principal, interest, and administrative fees due and payable as follows:

(i) Where the resolution levying the assessment installments is adopted by the City Council between January 1st and July 10th , assessment installments shall be due payable commencing on November 10th of the calendar year in which the resolution was adopted and on November 10th of each year thereafter until all assessment installments have been paid in full, November 10th being the same date that County property taxes are due and payable under the laws of the State of California.

(ii) Where the resolution levying the assessment is adopted by the City Council between July 11th and December 31st , assessment installments shall be due and payable commencing on November 10th of the calendar year next succeeding the calendar year in which the resolution was adopted and on November 10th of each year thereafter until all assessment installments have been paid in full.

(2) *Calculation of interest.* Interest on assessment installments shall be computed on the basis of an interest rate equal to the rate of cash held in pooled investments (LAIF), as calculated and published for the previous fiscal quarter, together with all appurtenant documents and fees required by this section, is filed in the office of the Engineer, plus 2% annual interest and an annual administrative fee of 2%.

(3) *Prepayment.* Assessment installments may be prepaid at any time between the date of adoption of the City Council resolution and the date the last assessment installment is due and payable by depositing with the Treasurer-Tax Collector of the County of Sutter a sum equal to the principal, interest, fees, and any penalties due on any delinquent installments on prior tax years and a sum equal to the principal, interest, and fees due on the current tax year assessment roll, and then depositing with the City Finance Director a sum equal to the unpaid principal of any remaining assessment installments, exclusive of any interest or fees thereon.

(i) Upon prepayment of the remaining assessment installments, the City Finance Director shall request the Sutter County Auditor to remove all such assessment installments from the County tax rolls and shall also cause the assessment lien levied by the City Council resolution to be released in the manner herein provided by this section.

(4) *Penalty for unpaid assessment installments.* In the event any assessment installment levied per this section and/or any interest, penalties, or other charges accruing thereon are not paid when due, the City Council may, not later than four years after the due date of the last such installment, order that the same be collected by an action brought in the Superior Court to foreclose the lien thereof, all in the manner provided for by the Improvement Bond Act of 1915, as set forth in Part 14, Division 10 of the Streets and Highways Code.

(h) *Release of assessment lien.* Where all assessment installments levied in the manner provided for by this chapter have been paid in full, either by reason of the prepayment of such assessment installments or otherwise, the Finance Director shall execute and record in the official records of the County of Sutter a notice stating that the assessment lien levied by the City Council resolution is being released.

Article 6. Administrative Enforcement Remedies

Sec. 6-5.601. ~~Public Works~~Utilities Director enforcement.

Sec. 6-5.601.A. Notification of violation.

When the ~~Public Works~~Utilities Director finds that a user has violated, or continues to violate, any provision of this chapter, a wastewater discharge permit or order issued hereunder, or any other pretreatment standard or requirement, the ~~Public Works~~Utilities Director may serve upon that user a written notice of violation (NOV). The industrial user in noncompliance may be required to provide an explanation of the violation and a plan for the satisfactory correction and prevention thereof, including specific required actions, which shall be submitted by the user to the ~~Public Works~~Utilities Director. Submission of this plan in no way relieves the user of liability for any violations occurring before or after receipt of the notice of violation. Nothing in this section shall limit the authority of the ~~Public Works~~Utilities Director to take any action, including emergency actions or any other enforcement action, without first issuing a notice of violation.

Sec. 6-5.601.B. Consent orders.

The ~~Public Works~~Utilities Director may enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any user responsible for noncompliance. Such documents will include specific action to be taken by the user to correct the noncompliance within a time period specified by the document. Such documents shall have the same force and effect as the administrative orders issued pursuant to Sections 6-5.601.D and 6-5.601.E of this chapter and shall be judicially enforceable.

Sec. 6-5.601.C. Show cause hearing.

The ~~Public Works~~Utilities Director may order a user which has violated, or continues to violate, any provision of this chapter, a wastewater discharge permit or order issued hereunder, or any other pretreatment standard or requirement, to appear before the ~~Public Works~~Utilities Director and show cause as to why the proposed enforcement action should not be taken. Notice shall be served on the user specifying the time and place for the meeting, the proposed enforcement action, the reasons for such action, and a request that the user show cause as to why the proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least 30 days prior to the hearing. Such notice may be served on any authorized representative of the user. A show-cause hearing shall not be a bar against, nor prerequisite for, taking any other action against the user.

Sec. 6-5.601.D. Compliance orders.

When the ~~Public Works~~Utilities Director finds that a user has violated, or continues to violate, any provision of this chapter, a wastewater discharge permit or order issued hereunder, or any other pretreatment standard or requirement, the ~~Public Works~~Utilities Director may issue an order to the user responsible for the discharge directing that the user come into compliance within a specified time. If the user does not come into compliance within the time provided, sewer service may be discontinued unless adequate treatment facilities, devices, or other related appurtenances are installed and properly operated. Compliance orders may also contain other requirements to address the noncompliance, including additional self-monitoring and management practices designed to minimize the amount of pollutants discharged to the sewer. A compliance order may not extend the

deadline for compliance established for a pretreatment standard or requirement, nor does a compliance order relieve the user of liability for any violation, including any continuing violation. Issuance of a compliance order shall not be a bar against, nor a prerequisite for, taking any other action against the user.

Sec. 6-5.601.E. Cease and desist orders.

When the ~~Public Works~~Utilities Director finds that a user has violated, or continues to violate, any provision of this chapter, a wastewater discharge permit or order issued hereunder, or any other pretreatment standard or requirement, or that the user's past violations are likely to recur, the ~~Public Works~~ Utilities Director may issue an order to the user directing it to cease and desist all such violations and directing the user to:

(a) Immediately comply with all requirements; and

(b) Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge.

Issuance of a cease and desist order shall not be a bar against, nor a prerequisite for, taking any other action against the user.

Sec. 6-5.601.F. Administrative fines.

(a) When the ~~Public Works~~Utilities Director finds that a user has violated, or continues to violate, any provision of this chapter, a wastewater discharge permit or order issued hereunder, or any other pretreatment standard or requirement, the ~~Public Works~~Utilities Director may fine such user in an amount not to exceed $25,000 per violation, per day. In the case of monthly or other long-term average discharge limits, fines shall be assessed for each day during the period of violation.

(b) Unpaid fines under this section shall, after 60 days, constitute a lien against the real property of the discharger from which the discharge originated. The lien shall have no force and effect until recorded with the County Recorder after which its applicability will remain, in accordance with provisions of California Civil Procedure Code §§ 683.110 to 683.220, inclusive.

(c) Users desiring to dispute such fines must file a written request for the ~~Public Works~~Utilities Director to reconsider the fine, along with full payment of the fine amount, within 30 days of being notified of the fine. Where a request has merit, the ~~Public Works~~ Utilities Director may convene a hearing on the matter. In the event that the user's appeal is successful, the payment, together with any interest accruing thereto, shall be returned to the user. The ~~Public Works~~Utilities Director may add the costs of preparing administrative enforcement actions, such as notices and orders, to the fine.

(d) Issuance of an administrative fine shall not be a bar against, nor a prerequisite for, taking any other action against the user.

The City has established an administrative penalty (noncompliance fee) for specific violations incorporated below. The following penalty schedule provides guidance as to the level of fine appropriate for that type of violation. The actual fine, if any, is determined based on the specific circumstances of each individual violation. Noncompliance fees are based on the actual time (staff hourly rates) and monitoring and testing costs incurred by the City in the investigation and resolution of noncompliance events. The responsible party shall be responsible to pay any type of administrative fines.

Violation	Penalty Schedule
Failure to submit discharge permit application by NOV deadline	$500
Failure to submit discharge permit renewal by NOV deadline	$500
Failure to meet schedule set forth in Administrative Order for discharge permit application or renewal	$750
Failure to submit report by NOV deadline	$500

Submittal of chronically late or unacceptable reports	$500
Failure to comply with sampling/monitoring requirements of NOV and/or Warning Letter	$750
Failure to comply with pretreatment, sampling, or monitoring equipment installation/maintenance requirements of NOV and/or Warning Letter	$750
Publication of SNC	$750
Frequent (insignificant) exceedances of discharge limit (permit, local limit, and/or categorical)	$500
Failure to comply with NOV requirements related to the FOG program	$500

Sec. 6-5.601.G. Emergency suspensions.

The ~~Public Works~~Utilities Director may immediately suspend a user's discharge, after informal notice to the user, whenever such suspension is necessary to stop an actual or threatened discharge which reasonably appears to present or cause an imminent or substantial endangerment to the health or welfare of persons. The ~~Public Works~~Utilities Director may also immediately suspend a user's discharge, after notice and opportunity to respond, that threatens to interfere with the operation of the POTW, or which presents or may present an endangerment to the environment.

(a) Any user notified of a suspension of its discharge shall immediately stop or eliminate its contribution to the POTW. In the event of a user's failure to immediately comply voluntarily with the suspension order, the ~~Public Works~~Utilities Director may take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent or minimize damage to the POTW and/or its receiving stream or endangerment to any individuals. The ~~Public Works~~Utilities Director may allow the user to recommence its discharge when the user has demonstrated to the satisfaction of the ~~Public Works~~Utilities Director that the period of endangerment has passed, unless the termination proceedings in Section 6-5.601.H of this chapter are initiated against the user.

(b) A user that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement, describing the causes of the harmful contribution and the measures taken to prevent any future occurrence, to the ~~Public Works~~Utilities Director prior to the date of any show cause or termination hearing under Sections 6-5.601.C and 6-5.601.H of this chapter.

Nothing in this section shall be interpreted as requiring a hearing prior to any emergency suspension under this section.

Sec. 6-5.601.H. Termination of discharge.

In addition to the provisions in Section 6-5.403.F of this chapter, any user who violates the following conditions is subject to discharge termination:

(a) Violation of wastewater discharge permit conditions;

(b) Failure to accurately report the wastewater constituents and characteristics of its discharge;

(c) Failure to report significant changes in operations or wastewater volume, constituents, and characteristics prior to discharge;

(d) Refusal of reasonable access to the user's premises for the purpose of inspection, monitoring, or sampling;

(e) Violation of the pretreatment standards in Article 2 of this chapter; or

(f) Failure to comply with the other requirements of this chapter.

Such user will be notified of the proposed termination of its discharge and be offered an opportunity to show cause under Section 6-5.601.C of this chapter as to why the proposed action should not be taken. Exercise of this option by the ~~Public Works~~ Utilities Director shall not be a bar to, nor a prerequisite for, taking any other action against the user.

Sec. 6-5.601.I. Publication of users in significant noncompliance.

The ~~Public Works~~Utilities Director shall publish annually, in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW of industrial users, a list of the users, which, at any time during the previous 12 months, were in significant noncompliance with applicable pretreatment standards and requirements. The term "significant noncompliance" (SNC) shall be applicable to all significant industrial users (or any other industrial user that violates paragraphs (c), (d) or (h) of this section) and shall mean:

(a) Chronic violations of wastewater discharge limits, defined here as those in which 66% or more of all the measurements taken for the same pollutant parameter during a six-month period exceeded (by any magnitude) a numerical pretreatment standard or requirement, including instantaneous limits, as defined by Article 2;

(b) Technical review criteria (TRC) violations, defined here as those in which 33% or more of wastewater measurements taken for each pollutant parameter during a six-month period equals or exceeds the product of the numeric pretreatment standard or requirement including instantaneous limits, as defined by Article 2 multiplied by the applicable criteria (1.4 for BOD, TSS, fats, oils, and grease, and 1.2 for all other pollutants except pH);

(c) Any other violation of a pretreatment standard or requirement as defined by Article 2 (daily maximum, long-term average, instantaneous limit, or narrative standard) that the ~~Public Works~~Utilities Director determines has caused, alone or in combination with other discharges, interference or pass through, including endangering the health of POTW personnel or the general public;

(d) Any discharge of pollutants that has caused imminent endangerment to the public or to the environment, or has resulted in the ~~Public Works~~Utilities Director's exercise of its emergency authority to halt or prevent such a discharge;

(e) Failure to meet, within 90 days of the scheduled date, a compliance-schedule milestone contained in a wastewater discharge permit or enforcement order for starting construction, completing construction, or attaining final compliance;

(f) Failure to provide within 30 days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical pretreatment standard deadlines, periodic self-monitoring reports, and reports on compliance with compliance schedules;

(g) Failure to accurately report noncompliance; or

(h) Any other violation(s), which may include a violation of Best Management Practices, which the ~~Public Works~~Utilities Director has determined will adversely affect the operation or implementation of the local pretreatment program.

Article 7. Judicial Enforcement Remedies

Sec. 6-5.701. Injunctive relief.

When the ~~Public Works~~Utilities Director finds that a user has violated, or continues to violate, any provision of this chapter, a wastewater discharge permit, or order issued hereunder, or any other pretreatment standard or requirement, the ~~Public Works~~Utilities Director may petition the Superior Court of California, County of Sutter through the City Attorney for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the wastewater discharge permit, order, or other requirement imposed by this chapter on activities of the user. The ~~Public Works~~Utilities Director may also seek such other action as is appropriate for legal and/or equitable relief, including a requirement for the user to conduct environmental remediation. A petition for injunctive relief shall not be a bar against, or a prerequisite for, taking any other action against a user.

Sec. 6-5.702. Civil penalties.

(a) A user who has violated, or continues to violate, any provision of this chapter, a wastewater discharge permit, or order issued hereunder, or any other pretreatment standard or requirement shall be liable to the City for a maximum civil penalty of $25,000 per violation, per day. In the case of a monthly or other long-term average discharge limit, penalties shall accrue for each day during the period of the violation.

(b) The ~~Public Works~~Utilities Director may recover reasonable attorneys' fees, court costs, and other expenses associated with enforcement activities, including sampling and monitoring expenses, and the cost of any actual damages incurred by the City.

(c) In determining the amount of civil liability, the Court shall take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained through the user's violation, corrective actions by the user, the compliance history of the user, and any other factor as justice requires.

(d) Filing a suit for civil penalties shall not be a bar against, nor a prerequisite for, taking any other action against a user.

Sec. 6-5.703. Criminal prosecution.

(a) Any user who negligently violates any provision of Water Code §§ 13387(a)1—6, upon conviction, is guilty of a misdemeanor, punishable by a fine of not more than $25,000 per violation, per day, or imprisonment in the County jail for not more than one year, or both.

(b) A user who willfully or knowingly introduces any substance into the POTW which causes personal injury or property damage shall, upon conviction, be guilty of a misdemeanor and be subject to a fine of not less than $5,000 nor more than $50,000, or be subject to imprisonment, in state prison, for not more than three years, or both. This penalty shall be in addition to any other cause of action for personal injury or property damage available under state law.

(c) A user who knowingly makes any false statements, representations, or certifications in any application, record, report, plan, or other documentation filed, or required to be maintained, pursuant to this chapter, wastewater discharge permit, or order issued hereunder, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this chapter shall, upon conviction, be punished by a civil penalty of not more than $5,000 per violation, per day.

(d) In the event of a second conviction, a user shall be punished by a fine of not more than $100,000 per violation, per day, or imprisonment for not more than six years, or both.

Sec. 6-5.704. Remedies nonexclusive.

The remedies provided for in this chapter are not exclusive. The ~~Public Works~~Utilities Director may take any, all, or any combination of these actions against a noncompliant user. Enforcement of pretreatment violations will generally be in accordance with the City's enforcement response plan, which is located in Article 10 of this chapter; however, the ~~Public Works~~Utilities Director may take other action against any user when the circumstances warrant. Further, the ~~Public Works~~Utilities Director is empowered to take more than one enforcement action against any noncompliant user.

Sec. 6-5.705. Damages to City facilities.

Any unauthorized entering, breaking, damaging, destroying, uncovering, defacing, or tampering with any structure, equipment, or appurtenances which are a part of the City's sewerage system shall be a violation of this chapter. Damages to the City's facilities as a result of such unauthorized entering, breaking, damaging, destroying, uncovering, defacing, or tampering shall be paid by the responsible party or parties. The responsible party shall also be responsible to pay any type of fines resulting from damages to the POTW.

Sec. 6-5.706. Persons responsible for payment.

(a) *Municipal water system connection.* Where the premises are connected to the municipal water system, the sewer service charges shall be billed to the person who requested such connection to the water system, or their successor in interest, or to any person requesting that such bill be charged to them.

(b) *Non-municipal water system connection.* Where the premises are not connected to the municipal water system, the sewer service charges shall be billed to the person who requested such connection to the sewerage system, or their successor in interest, or, if no such request was made, to the owner of record of such premises on the date on which such premises were required by the City to be connected to the sewerage system, or to the successor in interest of such person, or to any person requesting that such bill be charged to him or her.

(c) *Enforcement of payment.* In each case where a bill for sewer services becomes delinquent, the City Manager or Finance Director shall order the premises shut off from the municipal water system. In the event of continued or repeated delinquencies, the City Manager or Finance Director may order the premises disconnected from the municipal water system and/or the sewerage system. When any premises have been shut off or disconnected from either the municipal water system or the sewerage system for the nonpayment of sewer service charges, such water or sewer service shall not be restored and such premises shall not be reconnected until all the delinquencies have been paid to the Finance Department, together with such reasonable charges for reconnecting as may be established.

(d) *Owner responsible.* Notwithstanding any provisions of this chapter, the property owner shall be additionally responsible for payment of all unpaid water/sewer bills and other fees owed to the City. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the water and/or sewer service charges to the City.

(e) *Collection of delinquent sewer charges.* All rates, charges, penalties and interest which remain delinquent as of June 30 of each year may be collected in the same manner as the general taxes for the City for the forthcoming fiscal year, as follows:

(1) The City's Finance Department shall prepare a written report, which shall be filed with the City Clerk. The report shall describe each parcel of real property for which there are any delinquencies in any rates or charges for services rendered to each parcel during the preceding year, and the amount of the delinquency. The report of delinquent sewer charges may be combined with the report of any other

delinquent charges, as long as the report identifies the delinquent charges for each service for each parcel.

(2) The City Clerk shall publish notice of the report's filing and of the time and place of hearing on the report, prior to the date set for the hearing. The notice shall be published once a week for two successive weeks prior to the hearing. The Finance Department shall also mail written notice of the report's filing to each property owner whose property or parcel is identified as being subject to delinquent charges, setting forth individually each property and each of the services and charges due for that property.

(3) At the time stated in the notice for the prehearing, the Finance Director and/or designee shall hear and consider all objections or protests, if any, to the report concerning the delinquencies in a "prehearing." Thereafter, the Finance Director may revise, change, reduce, or modify any delinquency, or overrule any or all objections thereto. The Finance Director shall then make his or her determination on each delinquency identified in the report, and present the list to the City Council for final determination at the public hearing stated in the notice.

(4) At the time stated in the notice, following the prehearing and prior to submission to the County of Sutter, the City Council shall hear and consider all objections or protests, if any, to the report concerning the delinquencies. Thereafter the City Council may adopt, revise, change, reduce, or modify any delinquency or overrule any or all objections thereto. The City Council shall then make its determination on each delinquency identified in the report; the City Council's determination shall be final.

(5) Following the hearing, on or before August 10 of each year, the City Clerk shall file with the City's Finance Director a copy of the signed report to submit to the County. The Finance Director will submit a request to the Sutter County to include the amount of delinquencies on the bills for taxes levied against the properties identified in the report.

Sec. 6-5.707. Violations infractions.

In addition to the foregoing, violations of this chapter shall be infractions as provided in Chapter 2 of Title 1 of this Code.

Sec. 6-5.708. Appeals to the City Manager.

(a) *Procedure.* Except for any decision, action, or determination made by the City Council, any permit applicant, permit holder, or other discharger affected by any decision, action, or determination, including cease and desist orders, made by the City in interpreting or implementing the provisions of this chapter, or any permit issued hereunder, may file with the City Manager a written request for reconsideration within ten days after such decision, action, or determination, setting forth in detail the facts supporting the request. The City Manager may elect to hold a hearing on the request. The request for reconsideration shall be acted upon by the City Manager within ten days after the date of filing or the close of the reconsideration hearing. The decision, action, or determination shall remain in effect during such period of review by the City Manager.

(b) *Action by the City Manager.* If the ruling made by the City Manager is unsatisfactory to the person requesting reconsideration, he may, within ten days after notice of the action by the City Manager, file a written appeal to the Council.

Sec. 6-5.709. Appeals to the Council.

Any person who is dissatisfied with the action of the City Manager may appeal to the Council in accordance with Chapter 4 of Title 1 of this Code. In the event of such an appeal, the City Manager shall transmit to the Council a report setting forth the reasons for the action taken.

Article 8. Reporting Requirements

Sec. 6-5.801. Baseline monitoring reports.

(a) Within either 180 days after the effective date of a categorical pretreatment standard, or the final administrative decision on a category determination under 40 CFR 403.6(a)(4), whichever is later, existing categorical users currently discharging to or scheduled to discharge to the POTW shall submit to the ~~Public Works~~ Utilities Director a report which contains the information listed in paragraph (b), below. At least 90 days prior to commencement of their discharge, new sources, and sources that become categorical users subsequent to the promulgation of an applicable categorical standard, shall submit to the ~~Public Works~~Utilities Director a report which contains the information listed in paragraph (b), below. A new source shall report the method of pretreatment it intends to use to meet applicable categorical standards. A new source also shall give estimates of its anticipated flow and quantity of pollutants to be discharged.

(b) Users described above shall submit the information set forth below.

(1) *Identifying information.* The name and address of the facility, including the name of the operator and owner.

(2) *Environmental permits.* A list of any environmental control permits held by or for the facility.

(3) *Description of operations.* A brief description of the nature, average rate of production, and standard industrial classifications of the operation(s) carried out by such user. This description should include a schematic process diagram which indicates points of discharge to the POTW from the regulated processes.

(4) *Flow measurement.* Information showing the measured average daily and maximum daily flow, in gallons per day, to the POTW from regulated process streams and other streams, as necessary, to allow use of the combined waste stream formula set out in 40 CFR 403.6(e).

(5) *Measurement of pollutants.*

(i) The user shall provide the following information:

A. The categorical pretreatment standards applicable to each regulated process and any new categorically regulated process for existing sources.

B. The results of sampling and analysis identifying the nature and concentration, and/or mass, where required by the standard or by the ~~Public Works~~Utilities Director, of regulated pollutants in the discharge from each regulated process.

C. Instantaneous, daily maximum, and long-term average concentrations, or mass, where required, shall be reported.

D. The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in Sections 6-5.810 and 6-5.811 of this chapter. Where the standard requires compliance with a BMP or pollution prevention alternative, the user shall submit documents as required by the ~~Public Works~~Utilities Director or the applicable standard to determine compliance with the standard.

(ii) The user shall take a minimum of one representative sample to compile the data necessary to comply with the requirements of this paragraph.

(iii) Samples should be taken immediately downstream from pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with the regulated wastewater prior to pretreatment, the user should measure the flows and concentrations necessary to allow use of the combined waste stream

formula in 40 CFR 403.6(e) to evaluate compliance with the pretreatment standards. Where an alternate concentration or mass limit has been calculated in accordance with 40 CFR 403.6(e), this adjusted limit along with supporting data shall be submitted to the control authority.

(iv) Sampling and analysis shall be performed in accordance with Sections 6-5.810 and 6-5.811 of this chapter.

(v) The ~~Public Works~~Utilities Director may allow the submission of a baseline report which utilizes only historical data so long as the data provides information sufficient to determine the need for industrial pretreatment measures.

(vi) The baseline report shall indicate the time, date, and place of sampling and methods of analysis, and shall certify that such sampling and analysis are representative of normal work cycles and expected pollutant discharges to the POTW.

(6) *Compliance certification.* Compliance certification is a statement, reviewed by the user's authorized representative and certified by a qualified professional, indicating whether pretreatment standards are being met on a consistent basis, and, if not, whether additional operation and maintenance (O&M) and/or additional pretreatment is required to meet the pretreatment standards and requirements.

(7) *Compliance schedule.* If additional pretreatment and/or O&M will be required to meet the pretreatment standards, the shortest schedule by which the user will provide such additional pretreatment and/or O&M must be provided. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. A compliance schedule pursuant to this section must meet the requirements set out in Section 6-5.802. of this chapter.

(8) *Signature and report certification.* All baseline monitoring reports must be signed and certified in accordance with Section 6-5.402.F of this chapter.

Sec. 6-5.802. Compliance schedule progress reports.

The following conditions shall apply to the compliance schedule required in Section 6-5.801(b)(7) of this chapter:

(a) The schedule shall contain progress increments in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the user to meet the applicable pretreatment standards (such events include, but are not limited to, hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, and beginning and conducting routine operation);

(b) No increment referred to above shall exceed nine months;

(c) The user shall submit a progress report to the ~~Public Works~~Utilities Director no later than 14 days following each date in the schedule and the final date of compliance, including, as a minimum, whether or not it complied with the designated increment of progress, the reason for any delay, and, if appropriate, the steps being taken by the user to return to the established schedule; and

(d) In no event shall more than nine months elapse between such progress reports to the ~~Public Works~~Utilities Director.

Sec. 6-5.803. Reports on compliance with categorical pretreatment standard deadline.

Within 90 days following the date for final compliance with applicable categorical pretreatment standards, or in the case of a new source following commencement of the introduction of wastewater into the POTW, any user subject to such pretreatment standards and requirements shall submit to the ~~Public Works~~Utilities Director a report containing the information described in Section 6-5.801(b) of this chapter. For users subject to equivalent

mass or concentration limits established in accordance with the procedures in 40 CFR 403.6(c), this report shall contain a reasonable measure of the user's long-term production rate. For all other users subject to categorical pretreatment standards expressed in terms of allowable pollutant discharge per unit of production (or other measure of operation), this report shall include the user's actual production during the appropriate sampling period. All compliance reports must be signed and certified in accordance with Section 6-5.402.(F) of this chapter.

Sec. 6-5.804. Periodic compliance reports.

(a) All significant industrial users shall, at a frequency determined by the ~~Public Works~~Utilities Director but in no case less than twice per year (in June and December), submit a report indicating the nature and concentration of pollutants in the discharge which are limited by pretreatment standards and the measured or estimated average and maximum daily flows for the reporting period. In cases where the pretreatment standard requires compliance with a best management practice (BMP) or pollution prevention alternative, the user must submit documentation required by the ~~Public Works~~Utilities Director or the pretreatment standard necessary to determine the compliance status of the user. All periodic compliance reports must be signed and certified in accordance with Section 6-5.402.(F) of this chapter.

(b) All wastewater samples must be representative of the user's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a user to keep their monitoring facility in good working order shall not be grounds for the user to claim that sample results are unrepresentative of their discharge.

(c) If a user subject to the reporting requirement in this section monitors any pollutant at appropriate sampling location more frequently than required by the ~~Public Works~~Utilities Director, using the procedures prescribed in Section 6-5.811 of this chapter, the results of this monitoring shall be included in the report.

Sec. 6-5.805. Reports of changed conditions.

Each user must notify the ~~Public Works~~Utilities Director of any planned significant changes to the user's operations or system which might alter the nature, quality, or volume of their wastewater at least 180 days before the change.

(a) The ~~Public Works~~Utilities Director may require the user to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a wastewater discharge permit application under Section 6-5.402.(E) of this chapter.

(b) The ~~Public Works~~Utilities Director may issue a wastewater discharge permit under Section 6-5.402.(G) of this chapter or modify an existing wastewater discharge permit under Section 6-5.403.(D) of this chapter in response to changed conditions or anticipated changed conditions.

(c) For purposes of this requirement, significant changes include, but are not limited to, flow increases of 20% or greater and the discharge of any previously unreported pollutants.

Sec. 6-5.806. Reports of potential problems.

(a) In the case of any discharge, including, but not limited to, accidental discharges, discharges of a non-routine episodic nature, a non-customary batch discharge, or a slug discharge or slug load, that may cause potential problems for the POTW, the user shall immediately notify the ~~Public Works~~Utilities Director and/or his designee of the incident by telephone or email. This notification shall include the location of the discharge, type of waste, concentration, and volume, if known, and corrective actions taken by the user.

(b) Within five days following such discharge, the user shall, unless waived by the ~~Public Works~~Utilities Director, submit a detailed written report describing the cause(s) of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense,

loss, damage, or other liability which might be incurred as a result of damage to the POTW, natural resources, or any other damage to person or property; nor shall such notification relieve the user of any fines, penalties, or other liability which may be imposed pursuant to this chapter.

(c) A notice shall be permanently posted on the user's bulletin board or other prominent place readily visible by employees advising how to notify the City in the event of a discharge as described in paragraph (a), above. Employers shall ensure that all employees who may cause such a discharge are advised of the emergency notification procedure.

(d) Significant industrial users are required to notify the ~~Public Works~~Utilities Director immediately of any changes at their facility affecting the potential for a slug discharge.

Sec. 6-5.807. Reports from unpermitted users.

All users not required to obtain a wastewater discharge permit shall provide appropriate reports to the ~~Public Works~~Utilities Director as the ~~Public Works~~ Utilities Director may require.

Sec. 6-5.808. Notice of violation/repeat sampling and reporting.

If sampling performed by a user indicates a violation, the user must notify the ~~Public Works~~Utilities Director and/or designee within 24 hours of becoming aware of the violation. The user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the ~~Public Works~~Utilities Director and/or designee within 30 days after becoming aware of the violation. The user is not required to resample if the ~~Public Works~~Utilities Director and/or designee monitors the user's facility at least once a month for the pollutant that is exceeding permitted limits or if the ~~Public Works~~Utilities Director and/or designee samples between the user's initial sampling and when the user receives the results of this sampling, or if the City has performed the sampling and analysis in lieu of the industrial user.

Sec. 6-5.809. Discharge of hazardous waste.

The City prohibits the discharge of any hazardous waste into the POTW (as defined in 40 CFR 261).

Any user who commences the discharge of hazardous waste, whether illegally, accidentally, or otherwise, shall immediately notify the POTW, the EPA Regional Waste Management Division Director, and s~~S~~tate hazardous waste authorities, in writing, of any discharge into the POTW of a substance which, if otherwise disposed of, would be a hazardous waste under 40 CFR 261. Such notification must include the name of the hazardous waste as set forth in 40 CFR 261, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other). The notification requirement in this section does not apply to pollutants already reported by users subject to categorical pretreatment standards under the self-monitoring requirements of Sections 6-5.801, 6-5.803, and 6-5.804 of this chapter.

Sec. 6-5.810. Analytical requirements.

All pollutant analyses, including sampling techniques, to be submitted as part of a wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR 136, unless otherwise specified in an applicable categorical pretreatment standard. If 40 CFR 136 does not contain sampling or analytical techniques for the pollutant in question, or where the EPA determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analysis shall be performed by using validated analytical methods or other applicable sampling and analytical procedures, including procedures suggested by the ~~Public Works~~Utilities Director or other parties approved by the EPA. Minimum detection levels shall be as approved by the ~~Public Works~~Utilities Director.

Sec. 6-5.811. Sample collection.

(a) All wastewater samples must be representative of the user's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a user to keep its monitoring facility in good working order shall not be grounds for the user to claim that sample results are unrepresentative of its discharge.

(b) Samples collected to satisfy reporting requirements must be based on data obtained through appropriate sampling and analysis performed during the period covered by the report, based on data that is representative of the conditions occurring during the reporting period.

(c) Except as indicated in paragraphs (d) and (e) below, the user must collect wastewater samples using 24-hour flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the ~~Public Works~~Utilities Director. Where time-proportional composite sampling or grab sampling is authorized by the City, the samples must be representative of the discharge. Using protocols (including appropriate preservation) specified in 40 CFR 136 and appropriate EPA guidance, multiple grab samples collected during a 24-hour period may be composited prior to the analysis as follows: for cyanide, total phenols, and sulfides the samples may be composited in the laboratory or in the field; for volatile organics and oil and grease, the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by the City, as appropriate. In addition, grab samples may be required to show compliance with instantaneous limits.

(d) Samples for oil and grease, temperature, pH, cyanide, phenols, sulfides, and volatile organic compounds must be obtained using grab collection techniques.

(e) For sampling required in support of baseline monitoring and 90-day compliance reports required in Sections 6-5.801 and 6-5.803 (40 CFR 403.12(b) and (d)), a minimum of four grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds for facilities for which historical sampling data do not exist; for facilities for which historical sampling data are available, the ~~Public Works~~Utilities Director may authorize a lower minimum. For reports required by paragraphs Section 6-5.804 (40 CFR 403.12(e) and 403.12(h)), the industrial user is required to collect the number of grab samples necessary to assess and assure compliance with applicable pretreatment standards and requirements.

Sec. 6-5.812. Timing.

Written reports will be deemed to have been submitted on the date postmarked. For reports which are not mailed, postage prepaid, into a mail facility serviced by the United States Postal Service, the date of receipt of the report by the carrier shall govern.

Sec. 6-5.813. Record keeping.

Users subject to the reporting requirements of this chapter shall retain, and make available for inspection and copying, all records of information obtained pursuant to any monitoring activities required by this chapter, any additional records of information obtained pursuant to monitoring activities undertaken by the user independent of such requirements, and documentation associated with Best Management Practices established under Section 6-5.208(b). Records shall include the date, exact place, method, and time of sampling and the name of the person(s) taking the samples, and the dates, analytical techniques or methods, and results of analyses performed and the name of the person(s) who performed the analyses. These records shall remain available for a period of at least three years. This period shall be automatically extended for the duration of any litigation concerning the user or the City, or where the user has been specifically notified of a longer retention period by the ~~Public Works~~Utilities Director.

Article 9. Miscellaneous Provisions

Sec. 6-5.901. Pretreatment program fees.

The City may adopt reasonable fees in the City's fee schedule for reimbursement of costs of setting up and operating the City's pretreatment program. Fees may include;

(a) Fees for wastewater discharge permit applications, including the cost of processing such applications;

(b) Fees for monitoring, inspection, and surveillance procedures including the cost of collecting and analyzing a user's discharge, and reviewing monitoring reports submitted by users;

(c) Fees for reviewing and responding to accidental discharge procedures and construction;

(d) Fees for filing appeals; and

(e) Other fees as the City may deem necessary to carry out the requirements contained herein. These fees relate solely to the matters covered by this chapter and are separate from all other fees, fines, and penalties chargeable by the City.

Sec. 6-5.902. Severability.

If any court of competent jurisdiction invalidates any provision of this chapter, the remaining provisions shall not be affected and shall continue in full force and effect.

Sec. 6-5.903. Affirmative defenses to discharge violations.

Sec. 6-5.903.A. Upset.

(a) For the purposes of this section, "upset" means an exceptional incident in which there is unintentional and temporary noncompliance with categorical pretreatment standards because of factors beyond the reasonable control of the user. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

(b) An upset shall constitute an affirmative defense to an action brought for noncompliance with categorical pretreatment standards if the requirements of paragraph (c), below, are met.

(c) A user who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs and/or other relevant evidence that:

(1) An upset occurred and the user can identify the cause(s) of the upset;

(2) The facility was at the time being operated in a prudent and workman-like manner and in compliance with applicable operation and maintenance procedures; and

(3) The user submitted the following information to the ~~Public Works~~Utilities Director within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days):

(i) A description of the indirect discharge and cause of noncompliance;

(ii) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated timeframe that the noncompliance is expected to continue; and

(iii) Steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

(d) In any enforcement proceeding, the user seeking to establish the occurrence of an upset shall have the burden of proof.

(e) Users shall have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with categorical pretreatment standards.

(f) Users shall control production of all discharges to the extent necessary to maintain compliance with categorical pretreatment standards upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

Sec. 6-5.903.B. Bypass.

(a) For the purpose of this section:

(1) *"Bypass"* means the intentional diversion of waste streams from any portion of a user's treatment facility.

(2) *"Severe property damage"* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss caused by delays in production.

(b) A user may allow any bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (c) and (d) of this section.

(c) *Bypass notifications.*

(1) If a user knows in advance of the need for a bypass, it shall submit prior notice to the ~~Public Works~~Utilities Director, at least ten days before the date of the bypass, if possible.

(2) A user shall submit oral notice to the ~~Public Works~~Utilities Director of an unanticipated bypass that exceeds applicable pretreatment standards within 24 hours from the time it becomes aware of the bypass. A written submission shall also be provided within five days of the time the user becomes aware of the bypass. The written submission shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and, if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. The ~~Public Works~~Utilities Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

(d) *Bypass.*

(1) Bypass is prohibited, and the ~~Public Works~~Utilities Director may take an enforcement action against a user for a bypass, unless:

(i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of unwanted wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the

exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(iii) The user submitted notices as required under paragraph (c) of this section.

(2) The ~~Public Works~~Utilities Director may approve an anticipated bypass, after considering its adverse effects, if the ~~Public Works~~Utilities Director determines that it will meet the three conditions listed in paragraph (d)(1) of this section.

Article 10. Enforcement Response Plan for Industrial User Noncompliance

Sec. 6-5.1001. General overview.

(a) *Purpose of enforcement response plan.* The enforcement response plan (ERP) in this article enumerates the enforcement actions and their respective time frames that may be taken by the City of Yuba City against an industrial user for noncompliance with permit conditions, this Code, or Federal and State regulations.

(b) *Definitions.*

(1) *Major violations—significant noncompliance (SNC).* Any violation of pretreatment requirements (including limits, sampling, analysis, reporting, and meeting compliance schedules and regulatory deadlines) is an instance of noncompliance for which the industrial user is liable for enforcement, including monetary penalties. Instances of SNC are industrial user violations which meet one or more of the following criteria:

(i) Significant violations of wastewater discharge limits:

A. *Chronic violations.* 66% or more of all the measurements taken for the same pollutant parameter taken during a six-month period exceed (by any magnitude) a numeric pretreatment standard or requirement, including instantaneous limits as defined in Article 2;

B. *Technical review criteria (TRC) violations.* 33% or more of the measurements taken for each pollutant parameter during a six-month period equal or exceed the product of the numeric pretreatment standard or requirement, including instantaneous limits, as defined by Article 2 multiplied by the applicable criteria;

There are two groups of TRCs:

Group I for conventional pollutants (BOD, TSS, fats, oils, and/or grease) TRC = 1.4

Group II for all other pollutants except pH TRC = 1.2

C. Any other violation(s) of a pretreatment standard or requirement as defined by Article 2 that the ~~Public Works~~Utilities Director determines has caused, alone or in combination with other discharges, interference (e.g., slug loads) or pass-through, or endangered the health of the wastewater treatment personnel or the public;

D. Any discharge of a pollutant that has caused imminent endangerment to human health/welfare or to the environment or has resulted in the treatment plant's emergency authority to halt or prevent such a discharge;

E. Failure to meet, within 90 days of the scheduled date, a compliance-schedule milestone contained in a local control mechanism or enforcement order, for starting construction, completing construction, or attaining final compliance by 90 days;

F. Failure to provide, within 30 days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical pretreatment standard

deadlines, periodic self-monitoring reports, and reports on compliance with compliance schedules;

G. Failure to accurately report noncompliance; or

H. Any other violation or group of violations, which may include a violation of best management practices, which the ~~Public Works~~Utilities Director determines will adversely affect the operation or implementation of the local pretreatment program.

(2) *List of violators.* The ~~Public Works~~Utilities Director shall publish annually, in a newspaper of general circulation in the Yuba City area, a list of the industrial users who significantly violated applicable pretreatment requirements or standards at least once during the 12 previous months. The notification shall also summarize any enforcement actions taken against the industrial user(s) during the same 12 months.

(3) *Officials responsible.* The ~~Public Works~~Utilities Director or designee, in accordance with this chapter of this Code, will notify the City Attorney of any civil action or municipal code enforcement required. The District Attorney will prosecute criminal violations of s~~S~~tate water or health and safety laws.

(c) *Notice of violation and follow-up.* When a violation occurs (with the exception of certain insignificant/minor first offenses), a notice of violation (NOV) or a warning letter shall be sent via a certifiable means (U.S. Postal Service, FedEx, UPS, etc.) to the responsible party at the place of business. A written response by the industrial user may be required, which states the cause of the violation, the corrective actions which will be taken to prevent recurrence, and the time frame to complete corrective actions.

(1) If an industrial user fails to take corrective action, if the violation appears to be a part of a recurring pattern, or the level of the violation is of a large magnitude, a formal meeting will be arranged with representatives of the firm and the ~~Public Works~~Utilities Director or designee to discuss the problem or possible corrective actions. At this time, the firm may be issued an administrative order containing or requesting a time schedule for compliance and additional monitoring requirements and/or fines.

(2) Any industrial user who intentionally or willfully violates any provision of any permit issued pursuant to this chapter; intentionally or willfully discharges waste or wastewater which causes pollution; or violates any cease and desist order, established effluent limitations, national standard of performance, or national pretreatment or toxicity standard shall be fined not more than $50,000 for each offense. The ~~Public Works~~Utilities Director, after determining the existence of a violation, may levy fines, which shall be in accordance with this chapter of this Code and applicable s~~S~~tate and f~~F~~ederal law. Each day on which a violation occurs or continues shall be deemed a separate and distinct offense.

(3) If noncompliance has been deemed significant (SNC) or in situations where a discharge may pose a threat to the safety of operation of the POTW or its personnel, the industrial user will be issued a cease-and-desist order. This order, issued by the ~~Public Works~~Utilities Director, may order the user to comply immediately or impose additional requirements.

(4) Violations believed to be caused through deliberate acts or intentional discharge of hazardous wastes, as specified in 40 CFR 413 and 433, will be referred to the City Attorney for further enforcement. The City Attorney may then petition the Superior Court of California, County of Sutter for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the required performance.

(d) *Appeal.* Any permit applicant, permit holder, or other discharger affected by any decision, action, or determination made by the ~~Public Works~~Utilities Director, including cease-and-desist orders, may file with the ~~Public Works~~ Utilities Director a written request for reconsideration within ten days of such decision, action, or determination, setting forth in detail the facts supporting the request. The ~~Public Works~~ Utilities Director will then decide whether to hold a hearing on the request. The Director shall act upon a request for reconsideration within ten days from the date of filing or the close of the reconsideration hearing. The decision, action, or determination shall remain in effect during such period of review by the Director.

If the ruling made by the ~~Public Works~~Utilities Director is unsatisfactory to the person requesting reconsideration, they may, within ten days after notice of the action by the Director, file a written appeal to the City Manager.

The written appeal shall state all pertinent aspects of the matter~~,~~ and shall include the hearing record if one was requested. Within 30 days after the written appeal is received, the City Manager shall hold a hearing after due notice to the appellant. The City Manager may establish rules and regulations governing the hearing of such appeals. The City Manager shall make a final ruling on the appeal within ten days after close of the hearing. The decision, action, or determination shall remain in effect during such period of review by the City Manager.

Any person who is dissatisfied with the action of the City Manager may appeal to the Council in accordance with Chapter 4 of Title 1 of this Code. In the event of such an appeal, the City Manager shall transmit to the Council a report setting forth the reasons for the action taken.

(e) *Civil and criminal penalties.* If the industrial user fails to comply with the administrative cease-and-desist order, the City may pursue any of the alternative civil or criminal remedies herein against any discharger.

Sec. 6-5.1002. Enforcement response plan outline.

The following is an outline of the City's ERP enforcement procedures. These procedures were developed according to the September 1989 EPA guidelines for "Developing Control Authority Enforcement Response Plans." This section is sometimes referred to as the enforcement response guide (ERG).

(a) *Administrative.*

(1) Telephone call, email, or reminder letter to notify industrial user (IU) of violation. May include request for explanation of violation from IU.

(i) Done as soon as possible upon discovery of violation.

(2) Notice of violation (written):

(i) Sent by certifiable means (U.S. Mail, FedEx, UPS, etc.) within a timely manner after the violation.

(3) Fines assessed by City for violation(s):

(i) Intended to punish the IU for noncompliance.

(ii) No court intervention unless IU contests fine.

(4) Administrative order types:

(i) Show-cause order: allows the IU to appear before the ~~Public Works~~Utilities Director or representative and explain the noncompliance and why more severe enforcement actions should not be taken.

(ii) Enforcement documents: directs IU to implement corrective or remedial measures (compliance orders).

(iii) Cease-and-desist order(s).

(iv) Consent orders: negotiated settlement agreed upon by the City and the IU.

(v) Revocation of permit:

A. Failure of an industrial user to factually report the sewage constituents and characteristics of their discharge;

B. Failure of an IU to report significant changes in operations, site plans, floor plans, mechanical and plumbing plans, or sewage constituents and characteristics; or

C. Refusal of reasonable access to an IU's premises for the purpose of inspection or monitoring.

(vi) Industrial wastewater service termination.

(5) Administrative fines:

(i) Assessed for repeated or serious violations.

(ii) Attached to an administrative order.

(b) *Judicial enforcement.*

(1) *Civil Litigation.*

(i) *Lawsuits filed against IU to:*

A. Recover costs associated with noncompliance;

B. Impose civil penalties;

C. Seek injunctive relief;

D. Acquire a court order to return IU to compliance.

(ii) *Process of litigation:*

A. City decides to sue;

B. City Attorney files complaint with the Court;

C. IU responds to complaint by filing an answer;

D. Depositions and interrogations;

E. Trial date set;

F. Settlement negotiations, if any;

G. Trial occurs;

H. Verdict is issued;

I. Appeals are made.

(c) *Criminal prosecution.*

(1) Purpose:

(i) To punish noncompliance rather than recover costs;

(ii) To deter future noncompliance.

(2) City must prove intent and/or negligence;

(3) Criminal prosecution process:

(i) Discovery of the crime;

(ii) Gathering evidence;

(iii) Initiating criminal prosecution;

(iv) Defendant's pretrial options:

A. Plead guilty;

B. Jury trial.

(4) The criminal trial;

(5) Sentencing and appeals.

Sec. 6-5.1003. Enforcement response plan procedures.

The table below describes the City's enforcement response options per violation type. The official(s) responsible for enforcement shall be the ~~Public Works~~ Utilities Director and/or duly authorized representative. The following abbreviations shall be used throughout the ERP table:

AO = Administrative Order

CO = Consent Order

NOV = Notice of Violation

SCO = Show Cause Order

WL = Warning Letter

Item	Nature of Violation	Enforcement Option
A. Unauthorized Discharges (no permit or approval)		
1. Non-Permitted Discharge Violations		
1A	Industrial waste discharger unaware of wastewater discharge permit requirement; no harm to POTW/environment	Email or phone call and Issue WL with time schedule. Deadline for application submittal not to exceed 30 days.
1B	Industrial waste discharge without a permit resulting in violation of POTW NPDES permit, potential harm to POTW, environment or personnel.	Invoke emergency enforcement as necessary to abate discharge. May proceed with any of the following: a) Issue Administrative Order; b) Assess fine; c) Civil litigation seeking penalties up to $10,000; d) Terminate service
1C	Industrial waste discharge without a permit and evidence of intentional dumping or discharge of toxic pollutants of concern (metals and/or priority organics).	Issue AO to immediately halt discharge and issue NOV with time schedule. Deadline for application submittal not to exceed 15 days May proceed with any of the following: a) Assess Administrative Fine b) Civil/Criminal Action
1D	Failure to submit acceptable permit application by deadline	Issue NOV with time schedule. Deadline for application submittal not to exceed 15 days.
1E	Failure to submit acceptable permit application by NOV deadline.	Issue AO and fine. May proceed with any of the following: a) Civil action; b) Terminate Service
2. Non-permitted discharge (expired Permit or significant change in discharge)		
2A	Failure to apply for permit renewal. No environmental or POTW harm. Less than 30 days late	Phone/email; May proceed with any of the following: a) Issue WL with time schedule (Deadline for application submittal not to exceed 30 days).
2B	Failure to submit acceptable renewal application by deadline.	Issue NOV with time schedule. Deadline for application submittal not to exceed 15 days.

2C	Failure to submit renewal by NOV	Proceed with any of the following: a) Issue AO and fine; b) Terminate service; c) Civil/Criminal action.
B. Discharge Violations		
1. Industry exceeds final limits (categorical, local, or prohibited)		
1A	Isolated, not significant violation	Telephone call/email and require follow-up sampling Further enforcement actions: a) Issue WL
1B	Frequent, insignificant (repeated offense)	Issue NOV
1C	Frequent, insignificant (any offense)	Issue NOV
1D	Significant Violations that are SNC	Proceed with all the following: Issue NOV Issue Fine SNC publication in local newspaper
1E	Causes known; environmental or POTW damage (endangerment of life)	Issue AO to halt discharge; May proceed with any of the following: a) Issue fines b) Civil litigation c) Terminate services
1F	Failure to meet requirements specified in any NOV	Any of the following: a) Meet with IU; b) Issue AO; c) Issue Fine.
2. Slug load discharge without notifying the City		
2A	Isolated; no known damage	Issue NOV; Require IU to develop a spill control program
2B	Isolated with known interference, pass through, or damage	Any of the following: a) Fine up to $50,000 per day b) Civil action
2C	Recurring	Any of the following: a) Fine up to $50,000 per day; b) Civil action; c) Terminate service
C. Sampling, Monitoring, Equipment maintenance, and Reporting Violations		
1. Late Report (any type, includes incomplete report)		
1A	Once; report less than five days late	Any of the following: a) Telephone call b) Email c) Issue WL
1B	Report less than 30 days late	Issue NOV
1C	Report greater than 30 days late	Issue NOV with Fine; SNC publication
1D	Twice during any consecutive four-quarter period	Issue NOV

1E	Three times during any consecutive four-quarter period	Issue NOV, Fine
2. Improper Signature or Certification		
2A	Report is improperly signed or certified	Telephone call/Email; or Issue WL
2B	Report is improperly signed or certified after notice by City	Issue NOV with option of fine
3. Failure to sample during Monitoring period		
3A	Sample collected greater than 30 days late	Issue NOV; May proceed with any of the following: a) Issue Fine; b) SNC publication
3B	Twice during any consecutive four-quarter period	Issue NOV; option of fine
3C	Three times during any consecutive four-quarter period	Issue NOV May follow with: a) Issue fine b) SNC publication
4. Improper Sampling		
4A	Incorrect sample type and/or missed hold time	Issue WL with requirement for sample collection within 30 days
4B	Repeated Incorrect sample type, miss hold time, resample later than 30 days	Issue NOV, option of fine
5. Failure to Report Instances of Noncompliance		
5A	Failure to report discharge limit violation, spill, upset, bypass or changed discharge (no harm)	Issue NOV
5B	Failure to report discharge limit violation, spill, upset, bypass or changed discharge (results in harm to POTW, personnel, environment, and/or any City discharge limit)	Issue AO May proceed with any of the following: a) Issue Fine b) Terminate Service c) Civil action
5C	Repeated failure to report discharge limit violation, spill, upset, bypass, or change discharge	Any of the following: a) Civil Action b) Terminate Service
6. Failure to install monitoring equipment		
6a	Delay of less than 30 days	Any of the following: a) Telephone call b) Email c) Issue WL
6b	Delay of greater than 30 days	Any of the following: a) Issue NOV b) Issue AO c) Issue Fine
6c	Recurring Violation of Administrative Order	Any of the following: a) Civil Action

		b) Criminal Investigation c) Terminate service
7.	**Failure to properly operate and Maintain pretreatment equipment**	
7a	No Harm	Any of the following: a) Issue WL b) Issue NOV c) Issue Fine d) Issue CO
7b	Results in harm	Issue AO May proceed with any of the following: a) Show Cause Hearing; b) Issue Fine; c) Civil Action; d) Terminate Service
8.	**Reporting False Information; Falsification**	
8a	Falsification of any type, including but not limited to reporting and sampling	Any of the following: a) Criminal investigation b) Civil litigation c) Criminal Prosecution seeking maximum penalties allowed by State Law d) Terminate Services
D.	**Compliance Schedule Violations**	
1.	**Missed Milestone date**	
1a	Less than 30 days or will not affect final milestone	Any of the following: a) Telephone call b) Email c) Issue a WL d) Issue AO with fine
1b	Missed by more than 30 days, or will affect final milestone Violation for good cause (weather, materials unavailable, etc.)	Schedule a meeting to change final date; May proceed with any of the following: a) Issue AO b) Issue Fine
1c	Missed by more than 30 days, or will affect final milestone. Violation without good cause	Show cause hearing, seek penalties of $500 per day of violation
2.	**Failure to meet Compliance Schedule, Reporting requirements**	
2a	Did not submit report but did complete milestone	Any of the following: a) Telephone call b) Email c) Issue WL
2b	Did not submit report or meet milestone	Schedule a meeting; May proceed with the following: a) Issue AO b) Issue fine
3.	**Missed Final date**	
3a	Good Cause	Telephone call or Email

3b	30 days or more outstanding; failure or refusal to comply without good cause	Any of the following: a) Show Cause hearing b) Issue AO with fines c) Judicial Action
E. Spill Incidents		
1. Spill Incident		
1a	Reported by industry	Any of the following: a) Issue WL b) Issue NOV c) Meet with IU
1b	Failure to report spill	Issue NOV May proceed with any of the following: a) Issue AO with fines
2. Repeated Spill incidents		
2a	Failure to develop and/or upgrade spill prevention program	Issue NOV May proceed with any of the following: a) Issue AO with fines b) Show cause hearing
2b	Failure to act on a decision of compliance meeting and results in known environmental damage and/or POTW damage	Judicial Action, terminate service
F. Violations detected through industrial inspections/investigations		
1. Entry Denial		
1a	Entry denied or consent withdrawn Copies of records denied	Obtain warrant and return to IU
2. Illegal Discharge		
2a	No harm	Issue NOV May proceed with any of the following: a) Issue AO with Fine
2b	Results in harm to POTW, environment or personnel	Show Cause Hearing: May proceed with any of the following: a) Issue AO with fine b) Civil Action c) Terminate service
2c	Harm to POTW, environment or personnel and evidence of "willful or neglect" action	Any of the following: a) Civil Action b) Criminal Investigation c) Terminate Services
3. Improper Sampling		
3a	Unintentional; incorrect location, incorrect sample type, incorrect sample technique/preservation	Any of the following: a) Telephone call b) Correct at site c) Email d) Issue WL e) Issue NOV
4. Inadequate record keeping		

4a	Inspector finds files incomplete or missing, and no evidence of "willful or negligent" action	Issue NOV
4b	Inadequate record keeping continues after notice by City	Issue AO with fine
4c	Incomplete or missing files and evidence of "willful or negligent" action	Any of the following: a) Criminal Investigation b) Criminal Action c) Terminate Service
4d	Inspector finds additional files/data	Issue NOV
5. Failure to report additional monitoring		
5a	No harm to POTW, et al.	Issue NOV
5b	Failure to report additional data	Issue NOV
5c	Failure to report additional data after notice from City	Issue AO with fine
G. Other permit Violations		
1. Waste streams are diluted in lieu of treatment		
1a	Initial Violation	Issue AO
1b	Dilution continues in lieu of treatment after notification by City	Any of the following: a) Show Cause hearing b) Civil action c) Terminate Service
2. Failure to mitigate noncompliance		
2a	Does not result in harm	Issue NOV
2b	Results in harm to POTW, environment, or personnel	Issue AO with fine; May proceed with any of the following: a) Civil Action b) Terminate Service c) Criminal Investigation

Article 12. Fats, Oils, and Grease Discharge from Food Service Establishments

Sec. 6-5.1201. General overview.

Purpose. The purpose of this chapter is to facilitate the maximum beneficial public use of the City's sewer services and facilities while preventing blockages of the sewer lines resulting from discharges of fats, oils, and grease (FOG) from residential, industrial, and food service establishments (FSE) to the sewer facilities, and to specify appropriate FOG discharge requirements for FSEs.

Sec. 6-5.1202. Regulations.

(a) *Permits.* Nonresidential facilities, including not-for-profit and government-owned facilities, that prepare, process, or serve food, as determined by the ~~Public Works~~Utilities Director or designee, may be required to keep a valid wastewater discharge permit issued by the City as outlined in the provisions of Section 6-5.402.

(1) The wastewater discharge permit for any facility shall be renewed whenever there is a change in operation including facility expansion, remodeling, or change in ownership. Permits are issued for a specifically named establishment at a particular location and are not transferable.

(2) A limited food preparation establishment is not considered an FSE and is exempt from obtaining a wastewater discharge permit. Exempt establishments shall be engaged only in reheating, hot holding, or assembly of ready-to-eat food products, and, as a result, there is no wastewater discharge containing significant FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.

(b) *Discharge limitations.* No FSE shall discharge FOG or cause FOG to be discharged into the public sewer that causes an SSO, exceeds a concentration level set forth in Section 6-5.208, or that may accumulate and/or cause or contribute to blockages in the public sewer.

(c) *Prohibitions.* FSEs are prohibited from the following:

(1) Installing food grinders in the plumbing system of new construction. All FSEs that undergo a change in operations or remodeling shall remove any existing food grinders concurrent with such change or remodeling, except as otherwise expressly allowed by the ~~Public Works~~Utilities Director;

(2) Introducing any additives into an FSE's plumbing system, grease trap, and/or grease interceptor for the purpose of emulsifying FOG, biologically and/or chemically treating FOG for grease remediation, and/or as a supplement to grease interceptor maintenance;

(3) Disposing waste cooking oil into the public sewer or storm drain. All waste cooking oils shall be collected and stored properly in receptacles such as rendering bins, barrels, or drums for recycling or other acceptable methods of disposal;

(4) Discharging wastewater from dishwashers to any grease removal device;

(5) Discharging wastewater with temperatures in excess of 140° Fahrenheit (60° Celsius) into any grease control device, including grease traps and interceptors;

(6) Discharging wastes containing fecal materials from toilets, urinals, wash basins, or other fixtures to waste lines directed to grease interceptors and/or other grease control devices;

(7) Discharging FOG and solid materials removed from a grease control device to the public sewer. Grease removed from grease interceptors shall be waste hauled to an approved disposal site as part of the operation and maintenance requirements for grease interceptors;

(8) Operating grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor (25% rule);

(9) Discharging FOG and other pollutants above the local discharge limits set forth in Section 6-5.208.

(d) *Violations.* Any violation of the terms and conditions of a wastewater discharge permit, BMP, or any requirement or prohibition of the FOG control program shall be deemed a violation of this chapter and subjects the wastewater discharge permittee and/or FSE to the sanctions set out in Articles 6 and 7 of this chapter.

Sec. 6-5.1203. Requirements.

(a) *Design.* All grease removal devices shall be designed and sized in accordance with the standards outlined in the most recent version of the California Plumbing Code (CPC) or as required by the City, whichever is more stringent.

(b) *Installation.*

(1) The owner of every newly constructed, remodeled, or converted commercial or industrial FSE with one or more grease-generating activities, including FSEs with new or replacement kitchens for which a

building permit is issued, shall install an approved grease interceptor for each grease-generating activity, of a size equal to or greater than the minimum size requirements as set forth in the most recent CPC.

(2) Existing FSEs, which do not currently have a grease interceptor installed, which have caused or contributed to grease-related blockage in the sewer system, or which have service laterals connected to hot spots, or which have been determined to contribute significant FOG to the sewer system by the City based on inspection or sampling, shall be deemed to have reasonable potential to adversely impact the sewer system, and shall install grease interceptors within 180 days upon notification by the ~~Public Works~~Utilities Director or designee.

(3) All grease-removal devices must be installed in a location that allows for easy accessibility for inspections and maintenance.

(c) *Variance.* An FSE may obtain a variance from the grease-interceptor requirement to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of a grease interceptor, if the FSE demonstrates that it is impossible or impracticable to install, operate, or maintain a grease interceptor. The ~~Public Works~~Utilities Director or designee's determination to grant a variance will be based upon, but not limited to, existence of the following conditions:

(1) There is no adequate space for installation and/or maintenance of a grease interceptor;

(2) There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer; or

(3) The FSE can justify that the alternative pretreatment technology is equivalent or better than a grease interceptor in controlling its FOG discharge.

(d) *Conditional waiver.* An existing FSE may obtain a conditional waiver from installation of a grease interceptor if the FSE demonstrates that it has negligible FOG discharge and insignificant impact to the sewer system. The ~~Public Works~~Utilities Director or designee's determination to grant or revoke a conditional waiver shall be based upon, but not limited to, existence of the following conditions:

(1) Quantity of FOG discharge as measured or as indicated by the size of the FSE based upon seating capacity, number of meals served, menu, water usage, amount of on-site consumption of prepared food, and other conditions that may reasonably be shown to contribute to FOG discharges;

(2) Adequacy of implementation of BMPs and compliance history;

(3) Sewer size, grade, condition based on visual information, FOG deposition in the sewer by the FSE, and history of maintenance and sewage spills in the receiving sewer system;

(4) Changes in operations that significantly affect FOG discharge; or

(5) Any other condition deemed reasonably related to the generation of FOG discharge by the ~~Public Works~~Utilities Director or designee.

(e) *Maintenance.*

(1) Grease interceptors/traps shall be maintained in efficient operating condition by periodic removal of the full contents of the device, which includes wastewater, accumulated FOG, floating materials, sludge, and solids. This includes scraping the sides of the device to remove any build-up on the walls, baffle, and inlet or outlet tees.

(2) Grease interceptors shall be fully pumped out and cleaned by a licensed hauler at a minimum of every 90 days. The ~~Public Works~~Utilities Director or designee may change the required maintenance frequency at any time to reflect current operating conditions or frequency when one or more of the following conditions occur:

(i) 25% or more of the wetted height, as measured from the bottom of the device to the invert of the outlet pipe, contains floating materials, sediment, oils, or grease prior to 90 days;

(ii) The discharge exceeds BOD, COD, TSS, FOG, pH, or other pollutant levels established by the City; or

(iii) A history of noncompliance issues.

(3) If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in Section 6-5.1203(e)(2), the FSE shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. If deemed necessary, the ~~Public Works~~Utilities Director or designee may also increase the maintenance frequency of the grease interceptor from the current frequency.

(4) Grease traps shall be cleaned at a minimum of once per month or as often as necessary to prevent pass through of grease into the collection system. Grease traps shall be cleaned and inspected by a licensed grease hauler at a minimum of once per year or as often as necessary as determined by the ~~Public Works~~Utilities Director and/or designee. Grease traps shall be maintained free of all food residues and any FOG waste removed during the cleaning and scraping process.

(5) Grease interceptors or traps shall be periodically inspected to ensure the device remains in good working condition, including any plumbing, pipes, fittings, and manhole covers. Any repairs to the device deemed necessary by the ~~Public Works~~Utilities Director or designee must be completed within 14 days at the sole expense of the establishment.

(6) Wastes removed from each interceptor shall be disposed of at a facility permitted to receive such wastes. In no way shall the wastes be returned to any private or public portion of the collection system, storm drain, or the wastewater treatment facility.

(7) FSEs may be required to provide a collection drum or container for the purpose of physically segregating oils, greases, and greasy solids (such as fryer oil). FSEs shall establish procedures for personnel to practice maximum segregation of oils, greases, and greasy solids to the collection drum or container prior to washing and other water cleaning which goes to the sewers. The FSE is responsible for the proper removal and disposal by a licensed rendering company of the material captured from either grease pretreatment devices on wastewater lines or the collection drum.

(8) All costs associated with proper maintenance and cleaning of the grease interceptor or trap shall be borne by the FSE.

(9) Property owners of commercial properties or their official designee(s) shall be responsible for the installation and maintenance of the grease interceptor serving multiple FSEs that are located on a single parcel.

(f) *Recordkeeping.* The FSE shall be required to keep all manifests, receipts, and invoices of all cleaning, maintenance, grease removal of/from the grease control device, disposal carrier, and disposal site location for no less than three years. The FSE shall, upon request, make the manifests, receipts, and invoices available to any City representative or inspector. These records shall include:

(1) A logbook of grease interceptor, grease trap, or grease control device cleaning maintenance practices.

(2) A record of BMPs being implemented including employee training.

(3) Copies of records and manifests of waste-hauling interceptor contents.

(4) Records of sampling data and sludge height monitoring for FOG and solids accumulation in the grease interceptor.

(5) Records of any spills and/or cleaning of the lateral or sewer system.

(6) Any other information deemed appropriate by the ~~Public Works~~Utilities Director or designee to ensure compliance with this chapter.

(g) *Best management practices (BMPs).* All FSEs are required to implement BMPs in its operations to reduce grease discharged to the sanitary sewer system. Detailed requirements for BMPs shall be specified in the FOG control program. All FSEs are required to comply with the BMPs as set forth therein as well as any additional BMPs established by the ~~Public Works~~Utilities Director or designee.

(h) *Falsifying information or tampering with process.* It shall be unlawful to make any false statement, representation, record, report, plan, or other document that is filed with the City, or to tamper with or knowingly render inoperable any grease-control device, monitoring device, method, or access point required under this chapter.

(i) *Facility closure notification.* All FSEs are required to notify the ~~Public Works~~Utilities Department of the facility's closure within 30 days of going out of business. It is the responsibility of the facility to conduct a final cleaning and pump out of any grease-removal device on hand. In the event the facility should fail to conduct a final pump out of the grease-removal device, the City reserves the right to perform such work at the expense of the property owner and/or outgoing utility customer of the closing facility. The property owner has ultimate responsibility for payment of any expenses or fees related to the facility closure, as per Section 6-5.706(d).

(j) *Right-of-entry.* The ~~Public Works~~Utilities Director or designee shall be provided reasonable access to all parts of the wastewater generating and disposal facilities for the purposes of inspection and sampling during all times the FSE is open, operating, or any other reasonable time. No persons or occupants of the premises shall interfere with, delay, resist, or refuse entrance to the Director, an inspector, and/or an enforcement officer attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to the public sewer.

Sec. 6-5.1204. Sewer system overflows, public nuisance, abatement orders, and cleanup costs.

FSEs found to have contributed to a sewer blockage, SSO, or any sewer system interference resulting from the discharge of wastewater or waste containing FOG shall be ordered to install and maintain a grease interceptor, and may be subject to a plan to abate the nuisance and prevent any future health hazards created by sewer line failures and blockages, SSOs, or any other sewer system interferences. SSOs may cause threat and injury to public health, safety, and welfare of life and property and are hereby declared public nuisances. Furthermore, service lateral failures and SSOs caused by an FSE, alone or collectively, are the responsibility of the private property owner or FSE, and individual(s) as a responsible officer or owner of the FSE. If the City must act immediately to contain and clean up an SSO caused by blockage of a private or public sewer lateral or system serving an FSE, or at the request of the property owner or operator of the FSE, or due to the failure of the property owner or FSE to abate the condition causing immediate threat of injury to the health, safety, welfare, or property of the public, the City's costs for such abatement may be entirely borne by the property owner or operator of the FSE, and individual(s) as a responsible officer or owner of the FSE and may constitute a debt to the City and become due and payable upon the City's request for reimbursement of such costs. Cost recovery shall be in accordance with Title 4, Chapter 8, Nuisance Abatement Code of this Code.

Sec. 6-5.1205. Monitoring and reporting conditions.

(a) *Monitoring for compliance with permit conditions and reporting requirements.*

(1) The ~~Public Works~~Utilities Director or designee may require periodic reporting of the status of implementation of BMPs.

(2) The ~~Public Works~~Utilities Director or designee may require visual monitoring at the sole expense of the FSE to observe the actual conditions of the FSE's service lateral and sewer lines downstream.

(3) The ~~Public Works~~Utilities Director or designee may require reports for self-monitoring of wastewater constituents and FOG characteristics of the FSE needed for determining compliance with any conditions or requirements as specified in the discharge permit, BMPs, or this chapter. Monitoring reports of the analyses of wastewater constituents and FOG characteristics shall be in the manner and form approved by the ~~Public Works~~Utilities Director or designee and shall be submitted upon request of the ~~Public Works~~Utilities Director or designee. Failure by the FSE to perform any required monitoring or to submit monitoring reports required by the ~~Public Works~~Utilities Director or designee constitutes a violation of this chapter and shall cause the City to initiate all necessary tasks and analyses to determine the wastewater constituents and FOG characteristics for compliance with any conditions and requirements specified in the FOG control program, FSE discharge permit, or in this chapter. The FSE shall be responsible for any and all expenses of the City in undertaking such monitoring analysis and preparation of reports.

(4) Other reports may be required such as compliance schedule progress reports, FOG control monitoring reports, and any other reports deemed reasonably appropriate by the ~~Public Works~~Utilities Director or designee to ensure compliance with this chapter.

Sec. 6-5.1206. Inspection and sampling conditions.

(a) *Inspection.* The ~~Public Works~~Utilities Director or designee may inspect or order the inspection and sample of the wastewater discharges of any FSE to ascertain whether the intent of this chapter is being met and the FSE is complying with all requirements. The FSE shall allow the City access to the FSE premises during normal business hours for purposes of inspecting the FSE's GRD and reviewing the manifests, receipts, and invoices relating to the cleaning, maintenance, and inspection of the GRD.

(b) *Sampling.* The ~~Public Works~~Utilities Director or designee shall have the right to place or order the placement on the FSE's property or other determined locations such devices as are necessary to conduct sampling or metering operations. Where an FSE has security measures in force, the FSE shall make necessary arrangements so that representatives of the City shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

Sec. 6-5.1207. Notification of spill and/or sewer system overflow.

(a) In the event an FSE is unable to comply with any permit condition or any section of this chapter due to a breakdown of equipment, accidents, or human error or the FSE has reasonable opportunity to know that their discharge will exceed the discharge provisions of the FSE discharge permit of this chapter, the discharger shall immediately notify the City. If the material discharged to the sewer has the potential to cause or result in sewer blockages or SSOs, the discharger shall immediately notify the local health department and the City.

(b) Confirmation of this notification shall be made in writing to the ~~Public Works~~Utilities Director or designee at the address specified in the FOG control program no later than five working days from the date of the incident. The written notification shall state the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately correct the problem, and what steps are being taken to prevent the problem from recurring.

(c) Such notification shall not relieve the FSE of any expense, loss, damage, or other liability which may be incurred as a result of damage or loss to the City or any other damage or loss to person or property; nor shall such notification relieve the FSE of any fees or other liability which may be imposed by this chapter or other applicable law.

Sec. 6-5.1208. Notification of planned changes.

An FSE shall notify the City at least 60 days in advance prior to any facility expansion, remodeling, or process modifications that may result in new or substantially increased FOG discharges or a change in the nature of the discharge. FSE shall notify the City in writing of the proposed expansion or remodeling and shall submit any information requested by the City for evaluation of the effect of such expansion on the FSE's FOG discharge to the sewer system.

Sec. 6-5.1209. Enforcement of fog program.

Noncompliance. Failure on the part of any FSE to maintain continued compliance with any of the requirements set forth in Sections 6-5.1201 through Sections 6-5.1208 may result in the initiation of enforcement action, as outlined in Sections 6-5.1001—Sections 6-5.1003. Such enforcement action may include, but is not limited to, the issuance of a verbal warning, written warning, notice of violation (NOV), administrative order, administrative civil liability, and/or imposition of administrative fines and/or penalties.

The City Council of the City of Yuba City does ordain as follows:

TITLE 6. - PUBLIC WORKS

CHAPTER 6. WATER SYSTEM

Sec. 6-6.01. General provisions.

(a) *Short title.* This chapter shall be known and may be cited as the "Yuba City Water Regulations."

(b) *Words and phrases.* For the purposes of this chapter, all words used in this chapter in the present tense shall include the future tense, all words in the plural number shall include the singular number, and all words in the singular number shall include the plural number.

(c) *Water system.* The City shall furnish a system, plant, works, and undertaking used for and useful in obtaining, conserving, and distributing water for public and private uses, including all parts of such system, all appurtenances to such system, and lands, easements, rights in land, water rights, contract rights, franchises, and other water supply, storage, and distribution facilities and equipment.

(d) *Separability.* If any section, subsection, sentence, clause, or phrase in this chapter is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this chapter.

(e) *Pressure conditions.* All applicants for service connections or water service shall be required to accept such conditions of pressure and service as are provided by the distribution system at the location of the proposed service connection and to hold the City harmless for any damages arising out of low-pressure or high-pressure conditions or interruptions in service.

(f) *Tampering with City property.* No one, except an employee or representative of the City, shall at any time in any manner operate the curb cocks or valves, main cocks, gates, or valves of the City's system or interfere with meters or their connections, street mains, or other parts of the water system.

(g) *Penalties for violations.* For the failure of the customer to comply with all or any part of this chapter, or any ordinance, resolution, or order fixing rates and charges of the City, a penalty for which has not hereafter been specifically fixed, the customer's service shall be discontinued, and the water shall not be supplied to such customer until he or she shall have complied with the rule, regulation, rate, or charge which he or she has violated or, in the event he or she cannot comply with such rule or regulation, until he or she shall have satisfied the City that in the future he or she will comply with all the rules and regulations established by the laws of the City and with all rates and charges. In addition thereto, he or she shall pay the City all fines and fees established in Section 6-6.18 and Section 6-6.20 of this chapter.

(h) *Rulings final.* All rulings of the Council shall be final. All rulings of the City Manager shall be final unless appealed in writing to the Council within five days. When appealed, the Council ruling shall be final.

(i) *Repeals.* Ordinance Nos. 272, 307, and 506, and all other ordinances or parts of ordinances in conflict with this chapter, are hereby repealed.

(j) *Effective date.* The effective date of this chapter is July 1, 1975.

(k) *Plan check and inspection fee.* In connection with any work of construction required by the terms of this chapter, a plan check and inspection fee shall be charged, the amount thereof being as set forth in the City's fee schedule.

Sec. 6-6.02. Definitions.

The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

(a) *Council* shall mean the City Council of the City.

(b) *City* shall mean the City of Yuba City, and the City Council of the City performing functions related to the City water service, together with the City Manager, the ~~Public Works~~Utilities Director, the Public Works Director, the Finance Director, and other duly authorized representatives.

(c) *Distribution mains* shall mean water lines in streets, highways, alleys, and easements used for public and private fire protection and for the general distribution of water.

(d) *Service* or *service connection* shall mean the pipe-line and appurtenant facilities, such as curb stop, meter, and meter box, if any, all used to extend water service from a distribution main to premises. Where services are divided at the curb or property line to serve several customers, each such branch service shall be deemed a separate service.

(e) *Public fire protection service* shall mean the service and facilities of the entire water supply and storage and distribution system of the City, including the fire hydrants affixed thereto and the water available for fire protection, excepting house service connections and appurtenances thereto.

(f) *Regular water service* shall mean the water service and facilities rendered for normal domestic, commercial, and industrial purposes on a permanent basis and the water available therefor.

(g) *Temporary water service* shall mean the water service and facilities rendered for construction work and other uses of limited duration and the water available therefor.

(h) *Private fire protection service* shall mean the water service and facilities for building sprinkler systems, hydrants, hose reels, and other facilities installed on private property for fire protection and the water available therefor.

(i) *Premises* shall mean a lot or parcel of real property under one ownership, except that any separate structure may be deemed separate premises. Apartment houses, motels, office buildings, and structures of like nature may be classified as single premises.

(j) *Cross-connection* shall mean any physical connection between the piping system from the City service and that of any other water supply that is not, or cannot be, approved as safe and potable for human consumption, whereby water from the unapproved source may be forced or drawn into the City distribution mains.

(k) *Owner* shall mean the person owning the fee, or the person in whose name the legal title to the property appears, by deed duly recorded in the County Recorder's office, or the person in possession of the property or buildings under claim of, or exercising acts of ownership over the same for himself or herself, or as executor, administrator, guardian, or trustee of the owner.

(l) *Person* shall mean any human being, individual, firm, company, partnership, association, private, public, or municipal corporation, the United States of America, the State of California, and any district, political subdivision, governmental agency, and subsidiary thereof.

(m) *Cost* shall mean the costs of labor, materials, transportation, supervision, engineering, and all other necessary or reasonable expenses.

(n) *Dwelling* shall mean any residence, apartment, habitation, or other structure customarily occupied by a single person or family and which contains facilities for the preparation of meals.

(o) *Resale* shall mean any change of ownership by sale, or transfer, of real property as recorded by the Sutter County Recorder, except sale or transfer between members of an immediate family. Immediate family being limited to husband-wife, brother-sister, parent-child.

Sec. 6-6.03. Notices.

Notices from the City to a customer shall normally be given in writing and either delivered or mailed to their last known address. When conditions warrant and in emergencies, the City may resort to notification either by telephone, messenger, text, or email.

Sec. 6-6.04. Administration.

(a) *Council.* The management, control, and care of the Municipal Water System of the City shall be vested in and under the direction of the Council.

(b) *Finance Director.* The Finance Director shall operate under the direction of the City Manager and shall be in charge of the billing, collecting, and maintenance of the bookkeeping system for the Municipal Water System. The Finance Director shall be responsible for the collection and banking of all money due the City and shall keep controlling records which shall reflect monthly transactions of individual accounts.

(c) ~~*Public Works*~~*Utilities Director.* The ~~Public Works~~Utilities Director shall operate under the direction of the City Manager and shall perform all the duties connected with, and have supervision of, the water works system, other than the office of bill collection and bookkeeping and the office of professional engineering, and shall perform such other duties as may be required by the City Manager.

(d) *Public Works Director*. The Public Works Director shall operate under the direction of the City Manager and shall be in charge of the professional engineering review and approval of extensions and connections to the Municipal Water System by private development. The Public Works Director shall also be responsible for or assist with the improvement or construction of the water works system capital infrastructure.

Sec. 6-6.05. Application for regular water service.

(a) *Applications for service to premises with a service connection.* Applicants requesting service to commence during regular business hours will be connected without charge, provided a good payment history has been established with the City. Other customers may be requested to provide payment in advance and/or credit references before connection. There will be a service charge, as determined by Section 6-6.18 of this chapter, for customers requesting turn-on or turn-off to be performed on weekends, holidays, and after hours.

(b) *Applications for water service with no existing service connection.* Applications for regular water service where no main extension is required shall be made upon a form provided by the City.

(c) *Undertaking of applicant.* Each application shall signify the customer's willingness and intention to comply with the regulations relating to the regular water service and to make payment for the water services required.

(d) *Payment for previous service.* An application shall not be granted unless payment in full has been made for water services previously rendered to the applicant by the City.

(e) *Delinquencies on accounts in the name of a commercial or residential tenant.* In the event that a tenant of a residential or commercial rental property, where water service is furnished in the tenant's name, leaves delinquent and unpaid water charges when the tenant vacates the premises, the City may require any future service to be only in the name of the property owner and not in the name of any subsequent tenant.

(f) *Tenant application.* A tenant applying for water services must provide to the City a valid signed lease or rental agreement along with identification for all persons listed on the agreement over the age of 18. Identification provided must be in the form of a California identification card, military identification card, California driver's license, or other valid picture identification.

(g) *Installation of services.* Regular water service shall be installed at the location desired by the applicant. The size of such service shall be finally determined by the City. Service installations may be made only to property abutting on public streets or abutting on such distribution mains as may be constructed in alleys or easements, at the convenience of the City. Services installed in new subdivisions prior to the construction of streets or in advance of street improvements shall be accepted by the applicant in the installed location.

(h) *Changes in customers' equipment.* Customers making any material change in the size, character, or extent of the equipment or operations utilizing water service, or whose change in operation results in a large increase in the use of water, shall immediately give the City written notice of the nature of the change and, if necessary, amend their applications.

(i) *Installation charges.* Charges for installing a water service line from the main to the curb stop shall be established by Section 6-6.18 of this chapter.

(j) *Extension charges.* Extension charges provide for the extension of mains and the installation of necessary fire hydrants within the street right-of-way only, based on property zoned R-1 and R-2 paying one-half the cost of an eight-inch line and all other property paying one-half the cost of a 10-inch line. The extension charge shall be as set forth in Section 6-6.18 of this chapter.

Corner lots and lots having more than one frontage where water mains exist or are planned shall pay extension fees based on 60% of the first 175 feet of total frontage (as measured to the point of intersection of the property lines or the point of intersection of the prolongation of the property lines) and 100% of all frontage in excess of the first 175 feet.

This reduction shall apply only to existing corner lots and shall not apply to corner lots which would be created by a new subdivision, parcel map, or development. Such parcels shall pay extension fees based on 100% of all applicable frontage as measured prior to the creation of the side street.

Extension fees will not be applicable to lands within a subdivision or special assessment district if the water main was installed at no cost to the City (other than oversizing costs) unless an agreement exists providing for the repayment of extension costs to the original developer or to the special district.

Where a water main only serves property on one side of the water line, the charge shall be double the current extension fee.

(k) *Connection charges.* The connection charge is designed to recover the capital costs of the treatment plant, reservoirs, and transmission lines.

The charge shall be paid at the owner's option at either the issuance of a building permit or at certificate of occupancy, not at the date of application for a building permit. The amount of the connection charges to be paid shall be those charges in effect at the time of payment of said connection fees. Charges shall be paid at the same time the owner chooses to pay all other development impact fees, if any. If no building permit is to be obtained, the charge shall be collected before service is established.

When a user requires a larger service than that which was previously serving the parcel, the user shall pay the difference between the old service and the new service based on those charges in effect at the time of the request as set forth in Section 6-6.18 of this chapter.

Sec. 6-6.06. Main extensions.

(a) *Main extensions.* The following rules are hereby established:

(1) *Determination.* Upon the receipt of any application for water service or request for an application form, the City shall determine whether, in its judgment, a main extension is necessary to provide service. A main extension shall be installed in the manner provided in this section whenever, in the judgment of the City, such main extension is necessary to provide regular water service to the property described in such application or request.

(2) *Applications.* Any owner or subdivider of one or more lots where, in the opinion of the Public Works Director, an extension is required shall make a written application. Such application shall contain a legal description of the property to be served, a map showing the location of the proposed connection, and any additional information which may be required.

(3) *Investigations.* Upon the receipt of the application, the City shall make an investigation of the proposed extension and reject, amend, or approve the application.

(4) *City lines.* All extensions provided for in accordance with these regulations shall be and remain the property of the City.

(5) *Dead-end lines.* No dead-end lines shall be permitted, except as approved by the Public Works Director.

(6) *Extent and design.* All main extensions shall extend to the far property line of developed property. All main extensions shall be subject to design approval by the City.

(b) *General.* Where the City, at its own expense, extends a main to serve property within the corporate limits of the City, the extension charge shall be governed by the applicable portion of subsection (j) of Section 6-6.05 of this chapter.

(c) *Main extensions by applicants.* If the cost of a main extension is in excess of what the City is prepared to appropriate, it shall be the responsibility of the applicant to provide for the main extension at his or her own expense to the standards established by the City and in accordance with an agreement for such extension.

Sec. 6-6.07. Main extensions to subdivisions.

Where water main extensions are required for subdivisions, it shall be the responsibility of the owner or subdivider to pay the entire cost for the complete installation of all water facilities required within the subdivision and for the extension of water transmission mains from the subdivision to the nearest existing main of adequate capacity for the area to be served. Such transmission mains shall be subject to all the requirements set forth in the subdivision regulations (Chapter 2 of Title 8 of this Code) and to any and all modifications and supplements to such regulations. Upon official acceptance by the City, the City shall assume the full ownership, maintenance, and control of such mains.

Sec. 6-6.08. General use regulations.

(a) *Number of services per premises.* The applicant may apply for as many fire or landscape services as may be reasonably required for the parcel and approved by the Public Works Director provided the pipeline system from each service shall be independent of the others and they shall not be interconnected, except for approved internal loops. The cost of all services shall be borne by the applicant. No connection shall provide service to more than one parcel.

(1) Minimum size of service: Single-family—one-inch diameter.

(2) Residential, single-family, and multi-family: Only one domestic service and meter shall be allowed per parcel.

(3) Commercial/industrial: Only one domestic service and meter shall be allowed per parcel without approval from the Utilities Director or the Public Works Director.

(b) *Water waste.*

(1) No customer shall permit leaks or the waste of water. When water is wastefully or negligently used on a customer's premises, the City may discontinue the service if such conditions are not corrected.

(2) *Water leak adjustment*. Should a customer experience a leak that is not due to negligent or willful acts, the customer may be eligible for a leak adjustment in the form of a water service billing credit.

(i) *Qualifying criteria*. The following criteria must be met for the customer to be eligible for a water leak adjustment.

A. Leak(s) must be located in the customer's service line and be beyond the control of the owner, agents, tenants, contractors, or anyone else occupying or using the property. Leaking faucets, fixtures, appliances, and other leak causes which could have been reasonably foreseen do not qualify for adjustment.

B. Excess water use must be at least 100% higher than normal usage, based on an average of the same billing period for the previous three years (or the available history for the account).

C. A leak adjustment must not have been granted for the customer in 24 months.

D. Proof that repairs were completed must be included with the request form.

E. The request form may only be submitted within three months after the repair.

F. If any insurance payment is received, the customer must immediately notify the City, and may be required to pay back the adjustment.

(ii) *Procedure*.

A. Customers may request a leak adjustment credit by completing a water leak adjustment request form, which is available at City Hall and the City's website. The completed form must be accompanied by proof of repair in the form of a receipt or invoice.

B. The Finance Director or designee shall determine if the leak and form meet the requirements of this section and whether to grant or deny the leak adjustment request. All decisions from the Finance Director or designee are final.

C. If the leak adjustment is granted, staff will enter the adjustment as a bill credit. The credit is for one billing cycle only and shall be no more than $500 in value.

(c) *Responsibility for equipment on customer premises.* All facilities installed by the City on private property for the purpose of rendering water service shall remain the property of the City and may be maintained, repaired, or replaced by the City without the consent or interference of the owner or occupant of the property. The property owner shall use reasonable care in the protection of the facilities. No payment shall be made for placing or maintaining such facilities on private property. No person shall place or permit the placement of any object in a manner which will interfere with the free access to a service cock or meter box or which will interfere with the reading of the meter. The City is responsible for all piping and equipment up to and including the water meter and check valve. The property owner is responsible for all equipment, piping, and appurtenances downstream of the water meter and check valve.

(d) *Damages to water system facilities.* The customer shall be liable for any damages to the City-owned customer water service facilities when such damages are from causes originating on the premises by an act of the customer or his or her tenants, agents, employees, contractors, licensees, or permittees, including the breaking or destruction of locks by the customer or others on or near a meter, and any damage to a meter which may result from hot water or steam from a boiler or heater on the customer's premises. The City shall

be reimbursed by the customer for any such damage promptly on presentation of a bill. No seal placed on a meter by the City shall be altered or broken except by an authorized employee.

(e) *Control valve on customer property.* The property owner is responsible for all equipment, piping, and appurtenances downstream of the water meter and check valve. The property owner shall install a shutoff valve as required by the building code. The customer shall not use the service curb stop to turn water on and off for their convenience.

(f) *Cross-connections.* See Cross-Connection Control Program, Section 6-6.21 of this chapter.

(g) *Direct connections to stationary steam boiler, hydraulic elevators, power pumps, and similar apparatus.* See Cross-Connection Control Program, Section 6-6.21 of this chapter.

(h) *Ingress and egress.* Representatives from the City shall have the right of ingress and egress to the customer's premises at reasonable hours for any purpose reasonably connected with the furnishing of water service.

(i) *Commercial and industrial cooling systems.* See Cross-Connection Control Program, Section 6-6.21 of this chapter.

(j) *Pools and tanks.* See Cross-Connection Control Program, Section 6-6.21 of this chapter.

(k) *Responsibility for equipment.* The customer shall, at his or her own risk and expense, furnish, install, and keep in good and safe condition all equipment which may be required for receiving, controlling, applying, and utilizing water. The City shall not be responsible for damages to property caused by faucets, valves, and other equipment which is open when water is turned on at the meter, either originally or when turned on after a temporary shutdown.

(l) *Unlawful connections*. For any premises found to be receiving City water service without being billed for said service, for whatever reason, the customer may be billed for all services rendered since the installation of the water service. The decision of the Finance Director or designee as to the time and amount of prior costs due shall be final.

(m) *Commercial, industrial, and institutional nonfunctional turf irrigation*. Users shall comply with the requirements of State law, including the prohibition of the use of potable water for the irrigation of nonfunctional turf located on commercial, industrial, and institutional properties, other than a cemetery, and on the properties of homeowners' associations, common interest developments, and community service organization or similar entities. The city may enforce the provisions of Chapter 2.5 (Nonfunctional Turf) of Part 2.55 of Division 6 of the Water Code.

Sec. 6-6.09. Meters.

(a) *Installation.* All services as specifically designated by this chapter, or those as ordered so by the Utilities Director or the Public Works Director, shall be metered. The sum of money set forth in subsection (i) and subsection (j) of Section 6-6.05 of this chapter shall be paid to the City prior to the installation of the meter facilities to pay all the costs of such installation, except as provided in subsection (b) of this section. The service connection, whether located on public or private property, shall be the property of the City, unless specifically otherwise provided, and the City hereby reserves the right to repair, replace, and maintain such service connection, as well as to remove it upon the discontinuance of service. Meters shall be located as close to the street as possible, preferably, within one foot of back of sidewalk.

(b) *General.* All services shall be metered.

(c) *Change in location of meters.* Meters moved for the convenience of the customer shall be relocated at the customer's expense. Meters moved to protect the City's property shall be moved at the City's expense.

(d) *Changes in size of meter.* Changes in the size of the meter shall be made on the request of the customer at his or her own expense. An allowance not to exceed one-half of the current cost of the replaced meter may be made.

(e) *Meter reading.* Meters shall be read as nearly as possible on the same day each month.

(f) *Meter testing.* Upon the deposit of a sum as determined by Section 6-6.18 of this chapter by any consumer, the City shall test the meter. The consumer shall be notified when the test is to be performed and may be represented at such test.

If the meter is found to over-register more than 2%, an accurate meter shall be installed, the deposit shall be repaid to the depositor and the excess charge for the time service was rendered the customer requesting the test or for a period of six months, whichever shall be the lesser, shall be refunded to the customer.

If the meter is found to be correct or to register less than the actual quantity of water passing through it, the deposit shall be retained by the City.

If a meter tested at the request of a customer is found to be more than 25% slow, in the case of domestic services, or more than 2% slow, for other than domestic services, the City may bill the customer for the amount of the undercharge based upon corrected meter readings for the period, not exceeding six months, the meter was in use.

All meters shall be tested prior to installation, and no meter which registers more than 2% fast shall be installed.

(g) *Non-registering meters.* If a meter is found to be not registering, the charges for service shall be at the minimum monthly rate, or based on the estimated consumption for a comparable period, or by such other method as is determined by the City, and its decision shall be final.

Sec. 6-6.10. Billing.

(a) *Billing period.* The regular billing period shall be monthly for all services.

(b) *Opening and closing bills.* Opening and closing bills for less than the normal billing period may be prorated. Closing bills may be estimated by the City for the final period as an expediency to permit the customer to pay the closing bill prior to the time service is discontinued. See Section 6-6.05 for requirements for opening an account.

(c) *Payment of bills.* Bills for water service and sanitary sewer service shall be rendered at the end of each billing period. Bills shall include the charges for water and sewage and shall be inseparable. Delinquency in any part of the bill shall be sufficient cause for the discontinuance of water service. Bills shall be payable on presentation. On each bill for water and sewer service rendered by the City shall be printed substantially the following: "If this bill is not paid on or before the 60th day after the bill was sent, service may be discontinued. A delinquency charge will be made and collected prior to renewing service following a discontinuance."

(d) *Delinquency notices*. The City shall make the following reasonable, good faith efforts to notify the customer that their account has become delinquent and may be discontinued:

(1) *Additional notifications*. The City will make a reasonable, good faith effort to notify the customer that the account remains past due and further collection action will be forthcoming approximately 60 days after bill issuance. The means of notification will be based upon the notification preference selected by the customer, e.g. text, phone, or email. Customers who have not selected a means of notification will be notified by phone. The City assumes no responsibility for phone or email contact information that has not been kept up-to-date by the customer.

(2) *Written disconnection notice*. The City shall not discontinue water service for nonpayment until payment by the customer has been delinquent for at least 60 days. The City will make a reasonable,

good faith effort to contact the customer in writing at least ten business days before discontinuation of water service for nonpayment.

(i) The written disconnection notice will be mailed to the mailing address designated on the account. If the mailing address and the address of the property which water service is provided are different, a second notice will be mailed to the physical service address. The written disconnection notice will include:

A. Customer's name and address;

B. Amount that is past due;

C. Date by which payment or payment arrangements are required to avoid discontinuation of service;

D. Description of the process to apply for an amortization plan;

E. Description of the process to dispute or appeal a bill;

F. City phone number and a web link to the City's Municipal Code Section 6-6.10.(k) - Collection of delinquent water charges.

(ii) *Notice to residential tenants/occupants in an individually metered residence*. The City will make a reasonable, good faith effort to inform the occupants, by means of written notice, when the water service account is in arrears and subject to disconnection at least ten days before water service is shut off. The written notice will advise the tenant/occupant that they have the right to become customers of the City without being required to pay the amount due on the delinquent account, as long as they are willing to assume financial responsibility for subsequent charges for water service at that address. In order for the amount due on the delinquent account to be waived, the tenant/occupant must provide verification of tenancy in the form of a rental agreement or proof of rent payments.

(iii) *Notice to tenants/occupants in a multi-unit complex served through a master meter*. The City will make a reasonable, good faith effort to inform the occupants, by means of written notice hung on the door of each residence, when the water service account is in arrears and subject to disconnection at least ten days before water service is shut off. The written notice will advise the tenant/occupant that they have the right to become customers of the City without being required to pay the amount due on the delinquent account, as long as they are willing to assume financial responsibility for subsequent charges for water services at the address(es) served by the master meter. If one or more of the occupants are willing and able to assume responsibility for the subsequent charges for water service to the satisfaction of the City, or if there is a physical means, legally available to the City, of selectively terminating service to those occupants who have not met the requirements for service, the City will make service available to the occupants who have met those requirements.

(iv) If the written disconnection notice is returned through the mail as undeliverable, the City will make a reasonable, good faith effort to visit the residence and leave a notice of discontinuance for nonpayment.

(3) *48-hour notice of termination*. The City will make a reasonable, good faith effort to notify the customer 48 hours in advance of disconnection of water service for non-payment. The means of notification will be based upon the notification preference selected by the customer, e.g. text, phone, or email. Customers who have not selected a means of notification will be notified by phone. The City assumes no responsibility for phone or email contact information that has not been kept up-to-date by the customer.

(i) If the City is unable to make contact by text, phone, or email, a good faith effort will be made to visit the residence and leave a notice of termination of service.

(e) *Separate billing.* Separate bills may be rendered for any service which has a separate connection to a City waterline. All City meters shall be billed separately.

(f) *Responsibility.* Where there is more than one usage charge on a single parcel being served through a single service, such as a parcel with multiple dwellings, there shall be charged and collected from the parcel owner the water charge for the entire parcel.

(g) *Liability for services rendered.* The owner of single- and multi-family residential property served by the City shall be charged with, and shall be personally responsible for, the water bills incurred for water service to such property. While the tenants or lessees of the premises may sign up for water service, the property owner shall remain ultimately responsible for any incurred water bills.

(h) *Disputed bills*. If a customer disputes the water bill and exercises their right to appeal to the City Council, the City will not disconnect water service for nonpayment while the appeal is pending.

(i) *Delinquent charges.* Where a rental property owner has past due charges for utility services, no new account can be established for service at the same property until payment is rendered for those same charges, unless a tenant or tenants elect to assume the responsibility for the account per Section 6-6.10.(d)(iii) - *Notice to tenants/occupants in a multi-unit complex served through a master meter*.

(j) *Owner responsible.* Notwithstanding any provisions of this chapter, the property owner shall be additionally responsible for payment of all unpaid water/sewer bills and other fees owed to the City. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the water and/or sewer service charges to the City.

(k) *Collection of delinquent water charges.* All rates, charges, penalties and interest which remain delinquent as of June 30 of each year may be collected in the same manner as the general taxes for the City for the forthcoming fiscal year, as follows:

(1) The City's Finance Department shall prepare a written report, which shall be filed with the City Clerk. The report shall describe each parcel of real property for which there are any delinquencies in any rates or charges for services rendered to each parcel during the preceding year, and the amount of the delinquency. The report of delinquent water charges may be combined with the report of any other delinquent charges, as long as the report identified the delinquent charges for each service for each parcel.

(2) The City Clerk shall publish notice of the report's filing and of the time and place of hearing on the report, prior to the date set for the hearing. The notice shall be published once a week for two successive weeks prior to the hearing. The Finance Department shall also mail written notice of the report's filing to each property owner whose property or parcel is identified as being subject to delinquent charges setting forth individually each property and each of the services and charges due for that property.

(3) At the time stated in the notice for the prehearing, the Finance Director and/or designee shall hear and consider all objections or protests, if any, to the report concerning the delinquencies in a "prehearing." Thereafter, the City Finance Director may revise, change, reduce, or modify any delinquency, or overrule any or all objections thereto. The Finance Director shall then make his or her determination on each delinquency identified in the report, and present the list to the City Council for final determination at the public hearing stated in the notice.

(4) At the time stated in the notice, following the prehearing and prior to submission to the County of Sutter, the City Council shall hear and consider all objections or protests, if any, to the report concerning the delinquencies. Thereafter the City Council may adopt, revise, change, reduce or modify

any delinquency or overrule any or all objections thereto. The City Council shall then make its determination on each delinquency identified in the report; the City Council's determination shall be final.

(5) Following the hearing, on or before August 10 of each year, the City Clerk shall file with the City's Finance Director a copy of the signed report to submit to the County. The Finance Director will submit a request to the County of Sutter to include the amount of delinquencies on the bills for taxes levied against the properties identified in the report.

Sec. 6-6.11. Discontinuance of service.

(a) *Discontinuance of service for nonpayment.* Service may be discontinued for the nonpayment of bills on or after the 60th day after the bill was sent.

(1) Before service is disconnected, the customer will be notified by a written disconnection notice at least ten days prior to termination and a second notice 48 hours prior to termination of service by phone, text, or email and by written door hanger. The failure of the City to send, or any such person to receive, such notice shall not affect the City's power hereunder.

(2) A customer's water service may be discontinued if water service furnished at a previous location is not paid for within the time fixed in this subsection for the payment of bills.

(3) If a customer receives water service at more than one location, and the bill for service at any one location is not paid within the provided time for payment, water service at all locations may be turned off.

(4) Domestic service shall not be turned off for the nonpayment of bills for other classes of water service, such as landscape or fire service.

(b) *Delinquency charges.* A delinquency charge as determined by Section 6-6.18 of this chapter shall be made and collected on the date of scheduled shut-off and thereafter for nonpayment or other violations of this chapter. When bills are delinquent, the City may demand that the full amount of both delinquent and current bills be paid.

(c) *Unsafe apparatus.* Water service may be refused or discontinued to any premises where apparatus or appliances are in use which might endanger or disturb the service to other customers.

(d) *Fraud or abuse.* Service may be discontinued if necessary to protect the City against fraud or abuse.

(e) *Noncompliance with regulations.* Service may be discontinued for noncompliance with the provisions of this chapter or any other laws or regulations relating to water service.

(f) *Vacation of premises.* Customers desiring to discontinue service shall so notify the City in order to be relieved of continued liability for service charges.

(g) *Short-term disconnections for repairs.* Upon notification to the City, short-term disconnections shall be made in order for the customer to complete necessary repairs to their service line. Disconnections will be made at the earliest convenience of the City.

(h) *Reestablishment of service*. In order to resume or continue service that has been disconnected for any reason except short-term disconnections for repairs, the customer must pay a reestablishment fee. The customer will be charged a fee to reestablish service in the billing system regardless of whether the meter has physically been turned off.

(1) The City will endeavor to reconnect service as soon as practicable but, at a minimum, will restore service before the end of the next working day following payment of any past due amount, delinquent fees attributable to the termination of service, and/or the abatement of any noncompliance issues.

(2) Water service that is turned on by any person other than City personnel or without City authorization may be subject to fines or additional charges or fees. Any damages that occur as a result of unauthorized restoration of service are the responsibility of the customer.

Sec. 6-6.12. Collection by suit.

(a) *Suits.* All unpaid rates and charges provided for in this chapter may be collected by suit.

(b) *Costs.* The defendant shall pay all the costs of suit in any judgment rendered in favor of the City.

Sec. 6-6.13. Public fire protection.

(a) *Use of fire hydrants.* Fire hydrants shall be for use by the City or by organized fire protection agencies. Other persons desiring to use fire hydrants for any purpose shall first obtain written permission from the City prior to use and shall operate the fire hydrant in accordance with instructions issued by the City. Unauthorized use of fire hydrants shall be prosecuted according to law and is subject to enforcement measures established in Section 6-6.20.

(b) *Moving fire hydrants.* When a fire hydrant has been installed in the location specified by the proper authority, the City shall have fulfilled its obligation. If a property owner or other person desires a change in the location of the fire hydrant, he or she shall bear all costs of such changes, without refund. Any change in the location of a fire hydrant shall be approved by the City.

(c) *Public fire protection service.* Where water is furnished for public fire protection through the public distribution system, within and outside the corporate limits of the City, the City may make a charge for such protection.

Sec. 6-6.14. Private fire protection service.

(a) *Adequate prevention—General.* A private fire protection service connection, two-inch pipe size and larger, shall be furnished only if adequate provision is made to prevent the use of water from such services for purposes other than fire extinguishing.

(b) *Unlawful connections.* No person shall make, or allow to exist, any connection to any portion of any line used exclusively for unmetered private fire service for any other purpose.

(c) *Check valves and bypass meters.* There shall be installed on all fire-line connections, two-inch pipe size and larger, used exclusively for unmetered private fire services, a detector check valve of a type approved by the National Board of Fire Underwriters and equipped with a bypass meter. Such installations shall be located within public streets, alleys, rights-of-way, or easements.

(d) *Payment.* If the City installs the private fire protection service, the applicant shall make a deposit, in advance, of the estimated cost of installing the private fire protection service. The charge for such installation shall be based on the City's total cost of all labor, materials, equipment, and other costs incidental to the installation, including the cost of the detector check valve and bypass meter assembly if installed by the City.

(e) *Title.* The service connection and all equipment appurtenant thereto, including the detector check valve and bypass meter assembly, shall be the sole property of the City, and no part of the cost shall be refunded to the applicant.

(f) *Use.* The unmetered private fire service line shall be used only for fighting accidental fires and for testing the fire prevention system. No charge shall be made for water used for these two purposes.

Water lost through leakage, or used in violation of these regulations, shall be paid for by the applicant at double the rate charged for general use.

The City shall read such bypass meters for the purposes of detecting any unauthorized use of water through the system. If water is used in violation of these regulations, the City may, at its option, discontinue and remove the service.

(g) *Rates.* There will be no monthly service charge for fire protection systems.

Sec. 6-6.15. Temporary service.

(a) *Duration of service.* Temporary service connections shall be disconnected and terminated within six months after their installation, unless an extension of time is granted in writing by the City.

(b) *Deposits.* A deposit shall be paid for temporary service per Section 6-6.18 of this chapter. Upon the discontinuance of the service, an adjustment will be made as an additional charge, refund, or credit for the actual cost of installing and removing the facilities required to furnish such service, exclusive of the cost of salvageable materials, as determined by the City.

If service is supplied through a fire hydrant, the applicant shall be charged a flat charge per connection for the installation, moving, and removal of service facilities, including the meter and a deposit as determined by Section 6-6.18 of this chapter. The City will be notified when the service is no longer required. Billing for the usage of water will be at the metered rate schedule and deducted from the deposit, or an additional billing will be made if the usage exceeds the amount of the deposit.

(c) *Installation and operation.* All facilities for temporary service to the customer connection shall be installed by the City and shall be operated in accordance with its instructions.

(d) *Responsibility for meters and installation.* The customer shall use all possible care to prevent damages to the meter or any other loaned facilities of the City which are involved in furnishing the temporary service from the time they are installed until they are removed, or until 48 hours after notice in writing has been given to the City that the contractor or other person is through with the meter and the installation. If the meter or other facilities are damaged, the cost of making repairs shall be paid by the customer.

(e) *Temporary service from fire hydrants.* If temporary service is supplied through a fire hydrant, a permit for the use of the fire hydrant shall be obtained from the City. It is specifically prohibited to operate the valve of any fire hydrant other than by the use of a spanner wrench designed for such purpose.

(f) *Unauthorized use of hydrants.* Tampering with any fire hydrant, or the unauthorized use of water therefrom, or for any other purpose, shall be unlawful and subject to enforcement measures established in Section 6-6.20.

(g) *Rates.* The rates for temporary service shall be in accordance with regular service. The minimum charge for water shall be as set forth by Section 6-6.18 of this chapter.

(h) *Credit.* The applicant shall pay the estimated cost of service in advance or shall be otherwise required to establish credit.

Sec. 6-6.16. Vacancies.

If vacancies occur in any unmetered housing units, other than those on a reduced rate with no credit for vacancies, and if the water pipelines within and/or without any building or combination of buildings have been provided by owners with shutoff valves, there shall be no charge for such unit or units after such valve or valves have been closed and sealed by the City. The type of shutoff valves to be installed shall be approved by the City, and they shall be located in readily accessible places.

Where there are unusual circumstances which result in a substantial hardship upon the property owner from the strict application of the provisions of this section, the City Manager may grant a variance to these provisions;

however, such variance shall be conditioned to the faithful and accurate reporting of vacancies and service renewals which shall be checked by the City and verified in lieu of the turning on or off of the shutoff valve and, further, such variance shall be revoked automatically if it is found by the City that service renewals have not been promptly, accurately, and faithfully reported by the owner or person in responsible charge, and such persons shall not be allowed to declare any vacancies unless each unit is equipped with a shutoff valve as specified in this section.

Sec. 6-6.17. Reserved.

Sec. 6-6.18. Summary of charges.

~~All the latest and~~Fees and current charges shall be found in the City's fee schedule document (also known as a master fee schedule), which may be updated or amended by resolution. Maximum rate and fee limits established by the Proposition 218 process shall also be adopted by resolution. ~~The City updates the fee schedule document annually and posts it on the City's website. This section shows the applicable fee categories, which will be reviewed and adjusted by the City Council annually.~~

~~Beginning in 2017, all the charges related to the use of City water treatment and distribution system set out in Section 6-6.18(j) of this chapter will be reviewed by the City Council on an annual basis as part of the fiscal year budget review process, prior to the July 1 implementation of the increase for each year~~periodically to confirm alignment with budgetary needs and desired implementation~~. The City Council will retain the authority to set by resolution the actual rates less than the maximum rates set out in Section 6-6.18(j) of this chapter.~~

~~(a) *Fee categories for installing a water service line from the main to the curb stop.*~~

~~1" service without meter~~
~~1" meter~~
~~1" residential dual water meter (w/fire service)~~
~~1 1/2" service without meter~~
~~1 ½" meter~~
~~2" service without meter~~
~~2" meter~~

~~Service lines larger than two-inch shall be charged for actual time and materials (service and/or meter). A deposit will be required based on the cost estimate furnished by the Public Works Department~~City~~.~~

~~(b) *Other fees.*~~

~~Relocate existing water meter~~
~~Fire system flow test~~
~~Hot Tap—4"~~
~~Hot Tap—6"~~
~~Hot Tap—8"~~

Hot Tap—10"

(c) *Extension charges (Section 6-6.05(j)).*

Parcels zoned (extension fee per front foot*)
R-1 and R-2
All others

* The indicated extension fee includes a surcharge of $4 per front foot for fire hydrant installations where the City has installed, or plans to install, street fire hydrants serving the property.

(d) *Connection charges (Section 6-6.05(k)).*

Meter Size	Maximum Continuous Flow	Factor
1"	25 GPM	1.00
1½"	50 GPM	2.00
2"	100 GPM	4.00
3"	400 GPM*	16.00
4"	800 GPM*	32.00
6"	1,500 GPM*	60.00
8"	3,500 GPM*	140.00

* Compound meter

Meter type for connections two-inch size and larger will be determined by the City after consultation with the new customer.

Any customer that purchases a connection charge prior to July 1, 2000, may complete the project at any time, and is not subject to connection charge rate adjustments or credit of interest. Any connection charges paid on or after July 1, 2000 and the project is completed within 18 months, will not be subject to any additional connection charges or interest credits. A project is deemed completed when all building permits are paid and a final inspection report is issued. Any connection charges paid on or after July 1, 2000, and the project is not completed within 18 months will be subject to the connection charge in effect at the time of project completion, and will be entitled to interest credit as to any connection charge increases. Interest will only be allowed as a credit toward connection charges increases and, in no event, shall customer be entitled to any refund of said interest. Interest will accrue, beginning 18 months after the initial purchase, based on the initial connection charge payment. Interest payment will be credited semi-annually on January 1 and July 1 based on the previous average semi-annual rate of the Local Agency Investment Fund administered by the California State Treasury. Connection permits or charges cannot be sold or transferred between any party other than the City of Yuba City.

(e) *Meter test deposit (Section 6-6.09(f))*

(f) *After hours service charge*

(g) *Delinquency charges (Section 6-6.11(b))*

(h) *Temporary service deposit (Section 6-6.15(b))* (per inch of desired size of service)

(i) *Fire hydrant use (Section 6-6.15(b) and (e)).*

Connection and removal of meter
Move meter from one hydrant to another
Deposit (for usage charge)
Deposit (for damage to meter)
Minimum monthly usage charge:
Metered (5,000 cubic foot at current rate)
Flat rate (minimum monthly)

(j) *Water service rates.*

(1) *Quantity charges.* A rate per 100 cubic feet (HCF) is hereby established with a minimum billing for all metered services as set forth in subsection (2) of this subsection.

(2) *Monthly water rates.* The chart below enumerates the maximum charges authorized following the 202617 Proposition 218 process. Actual rates and effective dates are subject to annually to Council approval and shall be established via esolution.

Meter Size	Baseline HCFs*	8/1/2016 to 6/30/2017	7/1/2017 to 6/30/2018	7/1/2018 to 6/30/2019	7/1/2019 to 6/30/2020	7/1/2020 to 6/30/2021
≤ 1"	11	$28.50	$33.91	$39.49	$41.01	$42.59
1.5"	22	$57.00	$67.83	$78.98	$82.03	$85.18
2"	44	$114.01	$135.67	$157.99	$164.07	$170.39
3"	176	$456.02	$542.66	$631.93	$656.26	$681.53
4"	352	$912.05	$1,085.34	$1,263.88	$1,312.54	$1,363.08
6"	660	$1,710.09	$2,035.00	$2,369.76	$2,461.00	$2,555.74
8"	1,540	$3,990.21	$4,748.36	$5,529.46	$5,742.34	$5,963.42

~~Water Flow Rate: Per Excess HCF~~	~~$1.430~~	~~$1.701~~	~~$1.981~~	~~$2.057~~	~~$2.137~~

~~* 1 HCF = 748 gallons~~

~~(3) *Unmetered service.* Reserved.~~

~~(k) *Meter surcharge for unmetered services.* Reserved.~~

~~(l) *Annual adjustments.* Annually on July 1 of each year fees and charges in the following sections shall be adjusted based on the previous April value of the Twenty City Average of Engineering News Record Construction Index: 6-6.18(a), (b), (c) and (d).~~

~~Annually on July 1 of each year fees and charges in the following sections shall be adjusted based on the previous April value of the California Consumer Price Index (CPI) for all urban consumers: 6-6.18(e), (f), (h), (i), (m), and (n).~~

~~(m) *Fees for cross-connection control program.*~~

~~(1) Application for backflow tester~~

~~(2) Backflow test tags (per tag)~~

~~(3) Air gap inspection/sticker (per vehicle/equipment piece)~~

~~(n) *Water service disconnection.*~~

~~(1) Disconnect service (for non-payment)~~

~~(2) Meter lock-off (continued non-payment and/or illegal use)~~

~~(3) Meter removal (continued non-payment and/or illegal use)~~

~~(4) After hours reconnection~~

~~(5) Notice served in lieu of disconnect service (plus delinquency charge)~~

(a~~o~~) *Special water surcharge*.

(1) *Purpose and application*. A special water surcharge shall be applied solely and strictly to the service area known as Regions 1, 2, and 3 of the "Former Hillcrest Water System" in accordance with City Resolution No. 10-114 dated December 21, 2010. The region map for the Former Hillcrest Water System is on file at the office of the Public Works Director.

(2) *Schedule of special water surcharge and collection thereof*. The surcharge shall be applied to the regular utility billing for City water customers within the Former Hillcrest Water System for a period of 20 years beginning in February 2011, in order to pay the determined portion of the two State Revolving Fund loans which were obtained for the conversion of the water system from groundwater to surface water, as determined by the Proposition 218 process and resolved by City Council. The water rate surcharge should not be indexed; the schedule of rates is shown in the chart below:

Service Size	Surcharge Amount
Up to 1"	$13.57 /month
1-1/2"	$27.14 /month
2"	$54.28 /month
3"	$173.70 /month
4"	$312.11 /month

6"	$578.50 /month

(3) *Prepayment*. Surcharge installments may be prepaid at any time between the date of adoption of the City Council resolution and the date the last surcharge installment is due and payable, by depositing with the City Finance Director a sum equal to the unpaid principal of any remaining surcharge installments, exclusive of any interest or fees thereon.

Sec. 6-6.19. Emergency water restrictions.

(a) Upon declaration of the City Council that water supply conditions are such that they dictate and justify the implementation of emergency water restrictions, the regulations in the Water Shortage Contingency Plan within the City's adopted Urban Water Management Plan will apply.

(b) In the event that any provision of this section or the City Municipal Code conflicts or overlaps with any mandatory state regulation related to water conservation, the more stringent shall apply.

(c) Violation of any water restrictions in effect shall be subject to the penalties enumerated in Section 6-6.20 - Enforcement measures.

Sec. 6-6.20. Enforcement measures.

(a) For each violation of any of the provisions/regulations set forth in this chapter, there shall be assessed against the responsible party for the property on which the violation occurs, i.e. the owner, lessee, person in possession of said property, or the person reflected in the Yuba City utility records as the party to whom the water bill is sent, the following penalties:

(1) First violation: A written warning of such violation.

(2) Second violation: $50 surcharge which shall appear on the next monthly water billing.

(3) Third violation: $100 surcharge which shall appear on the next monthly water billing.

(4) Fourth and subsequent violations: $250 surcharge which shall appear on the next monthly water billing.

(b) For each violation of any of the cross-connections or other provisions/regulations as set forth in Section 6-6.08 or 6-6.21 there shall be assessed against the responsible party for the property on which the violation occurs, i.e. the owner, lessee, person in possession of said property, or the person reflected in the Yuba City utility records as the party to whom the water bill is sent, the following penalties:

(1) First violation: A written warning of such violation and five times the value of the water.

(2) Second violation: $500 surcharge and ten times the value of the water, which shall appear on the next monthly water billing.

(3) Third and subsequent violation: $5,000 surcharge and ten times the value of the water, which shall appear on the next monthly water billing.

Sec. 6-6.21. Cross-connection control program.

A cross-connection control program is established as provided in this section.

(a) *Purpose/references/case history.*

(1) *Purpose.*

(i) To protect the public water supply against actual or potential cross-connection by isolating within the premises contamination that may occur because of some undiscovered or unauthorized cross-connection on the premises;

(ii) To eliminate existing connections between drinking water systems and other sources of water that are not approved as safe and potable for human consumption;

(iii) To eliminate cross-connections between drinking water systems and sources of contamination;

(iv) To prevent the making of cross-connections in the future;

(v) This section is adopted pursuant to the State of California Code of Regulations, Title 17 and 22 Public Health, and entitled "Regulations Relating to Cross-Connections," requiring the water supplier to administer a program to ensure cross-connection devices are installed, maintained, and tested annually.

(2) *References.*

(i) Under Public Law 99-339 the Safe Drinking Water Act inclusive of amendments;

(ii) California Plumbing Code Chapter 6602.0602.1 602.2 602-3 602-4;

(iii) California Administrative Code Titles 17 and 22;

(iv) City of Yuba City Standard Details 408408A 410 413;

(v) Manual of Cross Connection Control, 9th Edition, published by University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

(3) *Case History*. Manual of Cross Connection Control, 9th Edition, published by University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

(b) *Definitions.* The following words, terms, and phrases, when used in this section, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

(1) *Air-gap separation (AG)* shall mean a physical break between a supply pipe and a receiving vessel. The air-gap shall be at least double the diameter of the supply pipe measured vertically above the top rim of the vessel, in no case less than one inch.

(2) *Approved backflow prevention device* shall mean devices which have passed laboratory testing and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the (AWWA) American Water Works Association and possess a valid certification.

(3) *Approved water supply* shall mean any water supply whose potability is regulated by a state or local health agency, including the water supplier.

(4) *Auxiliary water supply* shall mean any water supply on or available to the premises other than the approved water supply.

(5) *AWWA standard* shall mean an official standard developed and approved by the American Water Works Association (AWWA).

(6) *Backflow* shall mean a flow condition, caused by a differential in pressure, that causes the flow of water or other liquids, gases, mixtures, or substances into the distributing pipes of a potable supply of water from any source or sources other than an approved water supply source, whether caused by back siphonage, backpressure, or otherwise.

(7) *Contamination* shall mean a degradation of the quality of the potable water by any substance which creates a hazard to the public health or which may impair the usefulness or quality of the water.

(8) *Cross-connection* shall mean any actual or potential connection between a potable water system used to supply water for potable purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, or any other devices through which backflow could occur, shall be considered to be cross-connections.

(9) *Double check-valve assembly* shall mean an assembly of at least two independently acting check-valves including tightly closing shutoff valves on each side of the check-valve assembly and test cocks available for testing the water-tightness of each check-valve.

(10) *Health agency* shall mean the California Department of Public Health.

(11) *Local health agency* shall mean Sutter County Environmental Health.

(12) *Person* shall mean an individual, corporation, company, association, partnership, municipality, public utility, or other public body or institution.

(13) *Premises* shall mean any and all areas on a property which are served or have the potential to be served by the public water system.

(14) *Public water system* shall mean water provided by the City of Yuba City.

(15) *Reclaimed water* shall mean a wastewater which as a result of treatment is suitable for uses other than potable use.

(16) *Reduced pressure principle backflow prevention assembly* shall mean an assembly incorporating two or more check-valves and an automatically operating differential relief valve located between the two checks, a tightly closing shut-off valve on each side of the check-valve assembly, and equipped with necessary test cocks for testing.

(17) *Service connection* shall mean and refer to the point of connection of a water user's piping to the water supplier's facilities.

(18) *Unprotected cross-connection* shall mean any cross-connection not outfitted with an air-gap separation, double check-valve assembly or reduced pressure principle backflow prevention assembly.

(19) *Water supplier* shall mean the City of Yuba City who operates the approved water supply system. For the purposes of this document, the term "water supplier" shall mean the City.

(20) *Water user* shall mean any person obtaining water from an approved water supply system of the City of Yuba City.

(c) *Cross-connection protection requirements.*

(1) *General provisions.*

(i) It is unlawful for any person, firm, or corporation at any time to make or maintain or cause to be made or maintained, temporarily or permanently, for any period of time whatsoever, any cross-connection between plumbing pipes of water fixtures being served with water by the City and any other source of water supply, or to maintain any sanitary fixture or other appurtenances or fixtures which by reason of their construction may cause or allow backflow of water or other substances into the water supply system of the City and/or the service of water pipes or fixtures of any water user of the City.

(ii) Unprotected cross-connections with the City's water supply are prohibited.

(iii) Whenever the water supplier, health agency, or local health agency determines that backflow protection is required on a premises, the City will require the water user to install an approved

backflow prevention device at his/her expense for continued services or before a new service will be granted or continued.

(iv) Wherever the water supplier, health agency, or local health agency determines that backflow protection is required on a water supply line entering a water user's premises, then any and all water supply lines from the City's mains entering such premises, buildings, or structures shall be protected by an approved backflow prevention device, to be installed at the water user's expense. The type of device to be installed will be in accordance with the requirements of this section.

(v) Every fire protection system served by the water supplier shall be separately connected to the public water system, and not interconnected to plumbing systems serving domestic or irrigation water unless approved by the Utilities Director or the Public Works Director.

(vi) All services to commercial or industrial users who apply for new construction or remodel permits shall at that time upgrade all service connection points to current standards. This includes domestic/irrigation/fire water service connection points.

(vii) Any current device that does not meet current standards must be replaced. The water user must retrofit their assembly to meet current standards at the water user's expense.

(viii) Backflow preventive assemblies shall have at least the same cross-sectional area as the water meter or less than the cross-sectional area with exception of those in parallel. In those instances where a continuous water supply is necessary, two sets of backflow preventive assemblies shall be installed in parallel, if the water supply cannot be temporarily interrupted for the testing of or the repair of the assemblies.

(ix) *Cross-connections.* The customer shall comply with state and federal laws governing the separation of dual water systems or installations of backflow protective devices to protect the public water supply from the danger of cross-connections. Backflow protective devices shall be installed as near the service as possible and shall be open to tests and inspections by the City. Plans for the installation of backflow protective devices shall be approved by the City prior to installation.

(x) In special circumstances, where the customer is engaged in the handling of especially dangerous or corrosive liquids or industrial or process waters, the City may require the customer to eliminate certain plumbing or piping connections as an additional precaution and as a protection to the backflow preventive devices.

(xi) As a protection to the customer's plumbing system, a suitable pressure relief valve shall be installed and maintained by him or her, at his or her expense, when check valves or other protective devices are used. The relief valve shall be installed between the check valves and the water heater. The devices shall be serviced, overhauled, or replaced whenever they are found defective, and all costs of repair, replacement, and maintenance shall be borne by the customer.

(xii) *Direct connections to stationary steam boiler, hydraulic elevators, power pumps, and similar apparatus.* No person shall draw water from City pipes directly into any stationary steam boiler, hydraulic elevator, power pump, or similar apparatus.

(xiii) Where City water is used to supply a steam boiler, hydraulic elevator, or power pump, its owner shall provide tankage of sufficient capacity to afford a supply of at least 12 hours, into which the service pipe shall be discharged.

(xiv) *Commercial and industrial cooling systems.* All commercial and industrial businesses shall be required to equip all air conditioning and evaporative cooler units using City water with cooling towers and/or recirculating water pumps in order to conserve City water.

(xv) *Responsibility for equipment*. The customer shall, at his or her own risk and expense, furnish, install, and keep in good and safe condition all equipment which may be required for receiving, controlling, applying, and utilizing water. The City shall not be responsible for damages to property caused by faucets, valves, and other equipment which is open when water is turned on at the meter, either originally or when turned on after a temporary shutdown.

(2) *Where protection is required.*

(i) Each service connection from the City water system for supplying water to premises having an auxiliary water supply shall be protected against backflow of water from the premises into the public water system.

(ii) Each service connection from the City water system for supplying water to any premises on which any substance, which has the potential to create contamination, is handled in such fashion as may allow its entry into the water system, shall be protected against backflow of the water from the premises into the public system by a backflow prevention device to be installed at the water user's expense. Backflow prevention devices shall also be installed, at the water user's expense, for service connections handling process waters and waters originating from the City water system which have been subjected to contamination from the premises.

(iii) Each service connection from the City water system solely dedicated for landscape irrigation shall have a backflow prevention device installed to protect the public water system from potential contamination, to be installed at the water user's expense.

(iv) Backflow prevention devices shall be installed on all service connections to any premises having any of the following:

A. Internal cross-connections that cannot be permanently corrected and controlled to the satisfaction of the state or local health agency and the City; or

B. Intricate plumbing and piping arrangements; or

C. Where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not cross-connections exist; or

D. Any premises that has pumps to increase water pressure from the supplier.

(~~i~~v) Any system or premises designated to serve multiple residential, commercial, or industrial tenants whose water practices are unknown at the time the plumbing or building permit is issued shall be protected against backflow of water from the premises to the public water system by a backflow prevention device of the type required by the City, health agency, or local health agency. The determination of the type of backflow prevention device required shall be based on a determination of the potential hazard that may reasonably be expected to be encountered in buildings of similar type or nature.

(vi) All portable pressure spray or cleaning units (including water trucks, street sweepers, etc.) that have the capability of connecting to any water supplier's system shall be provided with an air-gap separation.

(3) *Type of protection required.*

(i) The type of protection that shall be provided to prevent backflow into the approved water supply shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective device that may be required (listed in an increasing level of protection) includes: double check-valve assembly (DC), reduced pressure principle backflow prevention device (RP), and an air-gap separation (AG). The water user may choose a higher level of

protection than required by the City, health agency, or local health agency. The minimum types of backflow protection required to protect the approved water supply at the user's water connection to premises with varying degrees of hazard are given in Table 1. Situations which are not covered in Table 1 shall be evaluated on a case-by-case basis and the appropriate backflow protection shall be determined by the City or health agency, consistent with the highest practicable protection of potable water supplies.

TYPE OF BACKFLOW PROTECTION REQUIRED
TABLE 1

Degree of Hazard	Minimum Type of Backflow Prevention
Sewage and Hazardous Substances	
(1) Premises where the public water system is used to supplement the reclaimed water supply.	AG
(2) Premises where there are wastewater pumping and/or treatment plants and there is not interconnection with the potable water system. This does not include a single-family residence that has a sewage lift pump. An RP may be provided in lieu of an AG if approved by both the health agency and the City.	AG
(3) Premises where reclaimed water is used and there is no interconnection with the potable water system. An RP may be provided in lieu of an AG if approved by both the health agency and the City.	AG
(4) Premises where hazardous substances are handled in any manner in which the substances may enter a potable water system. This does not include a single-family residence that has a sewage lift pump. An RP may be provided in lieu of an AG if approved by both the health agency and the City.	AG
(5) Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected or assimilated.	RP
Auxiliary Water Supplies	
(1) Premises where there is an unapproved auxiliary water supply which is interconnected with the public water system. An RP may be provided in lieu of an AG if approved by both the health agency and the City.	AG
(2) Premises where there is an unapproved auxiliary water supply and there are no interconnections with the public water system. A DC may be provided in lieu of an RP if approved by both the health agency and City.	RP
(3) Premises where there is a City water service connection solely for landscape irrigation.	RP
Fire Protection Systems	
(1) Premises where fire system is directly supplied from the public water system and there is an unapproved auxiliary water supply on or to the premises (not interconnected).	RP
(2) Premises where the fire system is supplied from the public water system and interconnected with an unapproved auxiliary water supply. An RP may be provided in lieu of an AG if approved by both the health agency and City.	AG
(3) Premises where the fire system is supplied from the public water system and where either elevated storage tanks or fire pumps which take suction from the private reservoirs or tanks are used.	RP
(4) Dockside watering points and marine facilities.	RP
(5) Premises where there are marine facilities.	RP

(6) Premises where entry is so restricted that the City determines that inspections for cross-connections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.	RP
(7) Premises where cross-connections have been established or reestablished two or more times or any other water service that the health agency or the City determines that a cross-connection hazard may exist.	RP

(d) *Backflow prevention devices.*

(1) *Approved backflow prevention devices.*

(i) Only backflow prevention devices which have been approved by the City shall be acceptable for installation by a water user connected to the City's potable water system.

(ii) The City will provide, upon request, to any affected customer a list of approved backflow prevention devices.

(2) *Backflow prevention device installation.*

(i) Backflow prevention devices shall be installed in a manner prescribed in Section 7603, Title 17/22, of the California Administrative Code of Regulations. Location of the devices shall be as close as practical to the user's connection to the public water supply. The City shall have the final discretionary authority in determining the required location of a backflow prevention device.

A. *Air-gap separation (AG).* The air-gap separation shall be located on the user's side of and as close to the service connection as is practical. All piping from the service connection to the receiving tank shall be above grade and be entirely visible. No water use shall be provided from any point between the service connection and the air-gap separation. The water inlet piping shall terminate a distance of at least two pipe diameters of the supply inlet, but in no case less than one inch above the overflow rim of the receiving tank.

B. *Reduced pressure principal backflow prevention device (RP).* The approved reduced pressure principal backflow prevention device shall be installed on the user's side of and as close to the service connection as is practical. The device shall be installed a minimum of 12 inches above grade and not more than 36 inches above grade measured from the bottom of the device and with a minimum of 12 inches side clearance. The device shall be installed so that it is readily accessible for maintenance and testing. Water supplied from any point between the service connection and the RP device shall be protected in a manner approved by the City.

C. *Double check-valve assembly (DC).* The approved double check-valve assembly shall be located as close as practical to the user's service connection and shall be installed above grade, if possible, and in a manner where it is readily accessible for testing and maintenance. If a double check-valve assembly is put below grade it must be installed in a vault such that there is a minimum of six inches between the bottom of the vault and the bottom of the device, so that the top of the device is no more than eight inches below grade, so there is a minimum of six inches of clearance between the side of the device with the test cocks and the side of the vault, and so there is a minimum of three-inch clearance between the other side of the device and the side of the vault. Double check-valve assemblies of the "Y" type must be installed on their "side" with the test cocks in a vertical position so that the check-valve may be removed for service without removing the device. Vaults which do not have an integrated bottom must be placed on a three-inch layer of gravel.

(3) *Backflow prevention device testing and maintenance.*

(i) California Department of Public Health requires that the City administer a cross-connection program to ensure that annual testing is completed. The owners of any premises on which, or on account of which, backflow prevention devices are installed, shall have the devices tested by a person certified by the American Water Works Association and approved by the City. Backflow prevention devices must be tested at least annually and immediately after installation, relocation, or repair. The City may require a more frequent test schedule if it is determined to be necessary. No device shall be placed back in service unless it is functioning as required. A report in a form acceptable to the City shall be filed with the City each time a device is tested, relocated, or repaired. These devices shall be serviced, overhauled, or replaced whenever they are found to be defective and all costs of testing, repair, and maintenance shall be borne by the water user.

(ii) The City will supply affected water users with a list of persons acceptable to the City to test backflow prevention devices. The City will notify affected customers by mail when annual testing of a device is needed and also supply users with the necessary forms which must be filled out each time a device is tested or repaired.

(4) *Backflow prevention device removal.*

(i) Approval must be obtained from the City before a backflow prevention device is removed, relocated, or replaced.

A. *Removal.* The use of a device may be discontinued and the device removed from service upon determination by the City that a hazard no longer exists or is not likely to be created in the future. All well(s) must be abandoned by permit through Sutter County Environmental Health.

B. *Relocation.* A device may be relocated following confirmation by the City of Yuba City that the relocation will continue to provide the required protection and satisfy installation requirements. The City shall require a retest following the relocation of the device to verify the required level of protection.

C. *Repair.* A device may be removed for repair, provided the water use is either discontinued until repair is completed and the device is returned to service, or the service connection is equipped with other backflow protection approved by the City. The City shall require a retest following the repair of the device to verify the required level of protection.

D. *Replacement.* A device may be removed and replaced provided the water use is discontinued until the replacement device is installed. All replacement devices must be approved by the City and must be commensurate with the degree of hazard involved or updated to current standards.

(e) *User supervisor.* At each premise where it is necessary, in the opinion of the City, a user supervisor shall be designated by and at the expense of the water user. This user supervisor shall be responsible for the monitoring of the backflow prevention devices and for avoidance of cross-connections. In the event of contamination or pollution of the drinking water system due to a cross-connection on the premises, the City shall be promptly notified by the user supervisor so that appropriate measures may be taken to overcome the contamination. The water user shall inform the City of the user supervisor's identity annually, and whenever a change occurs. Any cost incurred by the City due to contamination by the failure/tampering or removal of the backflow device caused by user negligence shall be the responsibility of the water user or the property owner.

(f) *Administrative procedures.*

(1) *Water system survey.*

(i) The City shall review all requests for new services to determine if backflow protection is needed. Plans and specifications must be submitted to the City upon request for review of possible cross-connection hazards as a condition of service for new service connections. If it is determined that a backflow prevention device is necessary to protect the public water system, the required device must be installed before service will be granted.

(ii) The City may require an on-premises inspection to evaluate cross-connection hazards. The City will transmit a written 48-hour notice requesting an inspection appointment to each affected water user. Any customer who cannot or will not allow on-premises inspection of their piping system shall be required to install the backflow prevention device the City considers necessary.

A. *Right of entry for inspections.* Upon presentation of official identification, any authorized employee of the City on official business shall be allowed access at reasonable hours to any premises supplied by City water supply.

B. Any person who, as owner or occupant of any premises, refuses admittance to or hinders or prevents inspection by an authorized employee of the City may have all water service to the premises terminated. Water will not be restored until an inspection is performed and any corrective action has been addressed. A reconnection fee will be charged in accordance with the fees established in Section 6-6.18 of this chapter.

C. The City may, at its discretion, require a re-inspection for cross-connection hazards of any premises to which it serves water. The City will transmit a written 48-hour notice requesting an inspection appointment to each affected water user. Any customer who cannot or will not allow on-premises inspection of their piping system shall be required to install the backflow prevention device the City considers necessary.

(2) *Customer notification—Device installation.*

(i) The City will notify any affected water user of the survey findings, listing corrective action to be taken if required. A period of 30 days will be given to complete all corrective action required including installation of backflow prevention devices.

(ii) A second notice will be sent to each water user which does not take the required corrective action prescribed in the first notice within the 30-day period allowed. The second notice will give the water user a 15-day period to take the required corrective action. If no action is taken within the two-week period the City may terminate water service to the affected water user until the required corrective actions are taken. A reconnection fee will be charged per the City's fee schedule.

(3) *Customer notification—Testing and maintenance.*

(i) The City will notify each affected water user 15 days prior to the time for the backflow prevention device installed on their service connection to be tested. This written notice shall give the water user 60 days to have the device tested and supply the City with a completed test report. All test reports are due annually on the first day of the month in which the device was installed, repaired, or replaced.

(ii) A second notice shall be sent 30 days after the first notice to each City water user which does not have his/her backflow prevention device tested as prescribed in the first notice within the 60-day period allowed. The second notice will give the water user a 30-day period within the original 60-day period to have his/her backflow prevention device tested.

(iii) A third and notice shall be sent to have his/her backflow prevention device tested. If no action is taken within the remaining 14-day period, a 48-hour notice will be hand-delivered prior to the shut off time and date stated in the third notice. The City may terminate water service to the

affected water user at that time to the premises until the subject device is tested. A reconnection fee will be charged in accordance with the City's fee schedule before the water service will be restored.

(g) *Tester requirements.*

(1) *Business license required.* All testers must possess a current business license issued by the City.

(2) *Application for testers.* All parties that wish to test backflow prevention devices within the City surface or groundwater systems shall complete an application for approval to the City cross-connection control program and pay all applicable fees as set forth in Section 6-6.18 of this chapter. All fees for applications are non-refundable regardless of approval. If approved, this will permit testing for a period of three years from the approval date. Before the expiration of the initial three-year period, a notification letter of upcoming expiration will be sent. For renewal, a new application and all applicable fees must be paid. Notification by phone or mail will occur regardless of approval. All test equipment must be calibrated within the last 12 months and calibration reports must be submitted with each application. The responsibility for maintaining current approval status is solely the applicant's responsibility. Tester fees and backflow tag fees shall be waived for City employees for the testing of municipal devices only.

(3) *Backflow tags.* Every individual backflow device must have a backflow test tag. Serial numbers from tags must be printed on all test report forms submitted. A new tag must be placed on each device at the number one test cock each time the device is tested, repaired, or relocated. All backflow tags must be purchased at the City Finance Department, 1201 Civic Center Boulevard, Yuba City, California, 95993 in accordance with the fees established in Section 6-6.18 of this chapter. Tags are valid from January 1 through December 31 of each year. Tags will expire on December 31 of every calendar year and each year's tags will be of differing color. Tag fees are nonrefundable and unused tags may not be returned for a refund.

(4) *Application forms.* All application forms can be picked up and returned with fees paid at the time of application to the City of Yuba City Finance Department, 1201 Civic Center Boulevard, Yuba City, California, 95993 (Attention Cross-Connection Control Program).

(5) *Test forms.* All test forms must be approved by The City of Yuba City Cross-Connection Program.

(h) *Water service termination.*

(1) *General.* When the City encounters water uses that represent a clear and immediate hazard to the potable water supply that cannot be immediately abated, the City shall institute the procedure for discontinuing the City water service.

(2) *Basis for termination.* Conditions or water uses that create a basis for water service termination shall include, but are not limited to, the following items:

(i) Refusal to install a required backflow prevention device;

(ii) Refusal to test a backflow prevention device;

(iii) Refusal to repair a faulty backflow prevention device;

(iv) Refusal to replace a faulty backflow prevention device;

(v) Direct or indirect connection between the public water system and a sewer line;

(vi) Unprotected direct or indirect connection between the public water system and a system or equipment containing contaminants;

(vii) Unprotected direct or indirect connection between the public water system and an auxiliary water system;

(viii) A situation which presents an immediate health hazard to the public water system.

(3) *Water service termination procedures.*

(i) For conditions (i), (ii), (iii) or (iv) of subsection (h)(2) of this section, the City will terminate service to a customer's premises after two written notices have been sent specifying the corrective action needed and the time period in which it must be done. If no action is taken within the allowed time period, water service may be terminated.

(ii) For conditions (v), (vi), (vii) or (viii) of subsection (h)(2) of this section, the City will take the following steps:

A. Make reasonable effort to advise the water user of intent to terminate water service;

B. Immediately terminate water supply and lock service valve. The water service will remain inactive until correction of violations has been approved by the City. A reconnection fee will be charged in accordance with the City's shutoff policy.

(i) *Fire hydrant use.*

(1) *Hydrant meter required.* It is unlawful for any unauthorized person to draw, cause to be drawn, or allow to be drawn, for any purpose whatsoever, any water from any fire backflow device or fire hydrant within the City's public water supply (surface or groundwater) without a hydrant meter issued from the Finance Department, except any authorized fire personnel. All unauthorized water use will be considered theft of a public utility and subject to the fees/fines established in Section 6.20 of this chapter. All conditions of subsection B of this section shall apply and the City may require additional backflow prevention devices in companion with the hydrant meter. The additional backflow device will be at the user's expense.

(2) *Air-gap inspection and stickers.* All water trucks, tanks, and other equipment drawing water from within the City's public water supply (surface or groundwater) shall be inspected annually and approved by the ~~Public Works~~Utilities Department for proper air gap prior to drawing water. Upon approval by the ~~Public Works~~Utilities Department a color-coded verification sticker that contains a specific serial number shall be applied to the vehicle's windshield or rear bumper. The sticker will be valid for one year from the date of issuance. All inspections are to be paid for in advance at the City of Yuba City Finance Department, 1201 Civic Center Boulevard, Yuba City, California, 95993 in accordance with the fees established in Section 6.18 of this chapter. All unauthorized water use will be considered theft of a public utility and subject to the fees/fines established in Section 6.20 of this chapter.

(3) *Pools and tanks.* When an abnormally large quantity of water is desired for filling a swimming pool or for other purposes, arrangements shall be made with the City prior to taking such water.

Sec. 6-6.22 Assessment installments in lieu of payment of water fees.

(a) *Purpose/findings/definitions*.

(1) *Purpose*.

(i) To authorize and establish a procedure for levying assessment installments in lieu of payment of fees associated with the initial extension and connection of water service as outlined in Section 6-6.05. - Application for regular service and Section 6-6.18. - Summary of charges.

(2) *Findings*.

(i) There remain within the City's SPHERE OF INFLUENCE a number of residential and non-residential premises which are still being served by private wells rather than being connected to the City water distribution system.

(ii) One means of facilitating connection of the premises to the City water system is to provide the owners of such premises with an alternate means of financing the water extension and connection fees for assessment installments in lieu of lump sum payment of the fees, which ordinarily become due and payable at the time of connection of the premises to the City water system and before service is established, per the provisions of Section 6-6.05 - Application for regular water service.

(iii) The intent in enacting this section of the Municipal Code is to provide such financial assistance by allowing payment of such fees over a ten-year period through the levying of assessment installments in lieu of payment of water fees in the manner provided for by this section.

(3) *Definitions*. The following words, terms, and phrases, when used in this section, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

(i) *Water fees* shall mean any and all fees and charges associated with the extension and connection of new regular water services, as described in Section 6.6-18 - Summary of charges. All charges and fees related to the installation of service, including meters and material costs, shall be made in lump sum at the time of request.

(ii) *Assessment installments* shall mean the assessments levied on the property's taxes over a ten-year period following approval by the City Council and direction to the County Auditor. This shall include any interest thereon or subject administrative fees.

(iii) *Engineer* shall mean the City Engineer, who may also be the Public Works Director.

(iv) *City water service area* shall mean the area within the City's incorporated limits and sphere of influence which is or may be served by City water.

(b) *Applicability*. The provisions of this section shall apply to and authorize the levy of assessment installments in lieu of payment of water fees for the following residential and non-residential premises within the City water service area connecting to the City water distribution system:

(1) *Premises within the incorporated territory of the City of Yuba City*. Where premises connecting to the City water distribution system are located in that part of the City water service area within the incorporated territory of the City, this section shall authorize the levy of assessment installments in lieu of payment of water fees if, and only if, such assessment has been approved and authorized by the City Council, and if such premises are presently being served by a private well, it will be abandoned entirely or separated from the City's water distribution systems by means of an approved backflow prevention device in accordance with Section 6-6.21 - Cross-connection control program.

(2) *Premises within the City's sphere of influence in the County of Sutter*. Where the premises being connected to the City water distribution system are located in that part of the City water service area within the City's sphere of influence in the County of Sutter, this section shall authorize the levy of assessment installments in lieu of payment of water fees if, and only if, such assessment has been approved and authorized by the City Council; if such premises are presently being served by a private well, it will be abandoned entirely or separated from the City's water distribution system by means of an approved backflow prevention device in accordance with Section 6-6.21 - Cross-connection control program; and upon execution of an extraterritorial agreement with the City.

(c) *Petition for levying assessment installments in lieu of payment of water fees*.

(1) Proceedings for levying assessment installments in lieu of the payment of water fees shall be initiated by a petition filed in the office of the Engineer.

(2) Such petition shall describe the premises to be connected to the City water distribution system by street address or other method sufficient to enable the Engineer to identify the location and

boundaries of such premises; shall include a declaration that if the premises are presently being served by a private well, it will be abandoned entirely or separated from the City's water distribution system by means of an approved backflow prevention device in accordance with Section 6-6.21. - Cross-connection control program; shall set forth the requests of the petitioners for the City Council to levy an assessment in lieu of payment of water fees in the manner provided for by this section; and shall be signed by and set forth the mailing address of all persons owning an interested in the fee title to the premises.

(3) Any such administrative or operational costs incurred by the processing of the petition in the manner provided for by this section may be charged as a petition fee at the discretion of the Engineer.

(d) *Report of Engineer on assessment petition*.

(1) Following receipt of an assessment petition, the Engineer shall promptly cause a report to be made on the petition.

(2) The report shall set forth the following:

(i) A description of the premises which are the subject of the petition both by legal description and assessor's parcel number;

(ii) The name and mailing address of all persons owning an interest in the fee title to the such premises;

(iii) A determination as to whether the premises are located in that part of the City water service area within the incorporated territory of the City or that part of the City water service area within the City's Sphere of Influence in the County of Sutter;

(iv) A computation of the total amount of the water fees which would become due and payable in accordance with the provisions of Sections 6-6.05. and 6-6.18. of this chapter at the time of connection of the premises to the City water distribution system and before service is established; and,

(v) A schedule of the assessment installments to be levied against the subject premises in order to pay all such water fees, together with interest and an administrative fee thereon, in ten annual installments, all at the time, in the amounts, and in the manner hereinafter provided by this section.

(3) Following completion of such report, the Engineer shall cause the petition and report to be brought before the City Council for consideration for approval and authorization.

(e) *Consideration of assessment petition by City Council*.

(1) On the date and at the time of the City Council meeting on the assessment petition, the City Council shall consider the assessment petition, the report of the Engineer on the assessment petition, and any other relevant matters bearing on the petition and/or the assessment installments to be levied in lieu of payment of water connection fees pursuant to the assessment petition.

(2) Following consideration, of the assessment petition and report, the City Council may, by resolution:

(i) Grant the petition and levy assessment installments in lieu of payment as outlined herein this section;

(ii) Direct the City Manager, Utilities Director, Engineer, Finance Director, and any other necessary staff to conduct any required action(s);

(iii) Approve an extraterritorial agreement in cases where the subject premises fall outside of City limits but within the City's sphere of influence.

(f) *Establishment of assessment installments*.

(1) Upon receipt of a certified copy of a resolution of the City Council levying assessment installments in lieu of payment of water fees, the Engineer shall cause the resolution to be recorded in the official records of the County of Sutter.

(2) After the date of such recordation, the assessments provided for by such resolution shall constitute a lien upon the premises which are the subject of the resolution which shall have the priority and effect of an assessment lien as provided for by Article 13, Chapter 4, Part 1, Division 2, Title 5 of the California Government Code (commencing with Section 53930) or any other law of the State of California applicable to assessment liens levied by a municipality.

(3) Following recordation, the Engineer shall ensure that such resolution be transmitted to the Sutter County Auditor with the request that the assessment installments levied by the resolution be added to the County tax rolls at the time and manner provided therein.

(4) Thereafter, all assessment installments provided for in the resolution which become due in any year, together with all interest thereon, shall be payable in the same manner and at the same time that general taxes of the County on real property are payable, and such assessment installments and all interest and fees thereon shall become delinquent at the same time and bear the same proportional penalty and interest after delinquency as do the general taxes of the County on real property.

(g) *Assessment installments*.

(1) *Timing of payment*. Assessments in lieu of the payment of water fees, including interest thereon and any required administrative fees, shall be levied in ten equal installments of principal, interest, and administrative fees due and payable as follows:

(i) Where the resolution levying the assessment installments is adopted by the City Council between January 1st and July 10th , assessment installments shall be due payable commencing on November 10th of the calendar year in which the resolution was adopted and on November 10th of each year thereafter until all assessment installments have been paid in full, November 10th being the same date that County property taxes are due and payable under the laws of the State of California.

(ii) Where the resolution levying the assessment is adopted by the City Council between July 11th and December 31st , assessment installments shall be due and payable commencing on November 10th of the calendar year next succeeding the calendar year in which the resolution was adopted and on November 10th of each year thereafter until all assessment installments have been paid in full.

(2) *Calculation of interest*. Interest on assessment installments shall be computed on the basis of an interest rate equal to the rate of cash held in pooled investments (LAIF), as calculated and published for the previous fiscal quarter, together with all appurtenant documents and fees required by this section, is filed in the office of the Engineer, plus 2% annual interest and an annual administrative fee of 2%.

(3) *Prepayment*. Assessment installments may be prepaid at any time between the date of adoption of the City Council resolution and the date the last assessment installment is due and payable by depositing with the Treasurer-Tax Collector of the County of Sutter a sum equal to the principal, interest, fees, and any penalties due on any delinquent installments on prior tax years and a sum equal to the principal, interest, and fees due on the current tax year assessment roll, and then depositing with the City Finance Director a sum equal to the unpaid principal of any remaining assessment installments, exclusive of any interest or fees thereon.

(i) Upon prepayment of the remaining assessment installments, the City Finance Director shall request the Sutter County Auditor to remove all such assessment installments from the County tax rolls and shall also cause the assessment lien levied by the City Council resolution to be released in the manner herein provided by this section.

(4) *Penalty for unpaid assessment installments*. In the event any assessment installment levied per this section and/or any interest, penalties, or other charges accruing thereon are not paid when due, the City Council may, not later than four years after the due date of the last such installment, order that the same be collected by an action brought in the Superior Court to foreclose the lien thereof, all in the manner provided for by the Improvement Bond Act of 1915, as set forth in Part 14, Division 10 of the Streets and Highways Code.

(h) *Release of assessment lien*.

(1) Where all assessment installments levied in the manner provided for by this chapter have been paid in full, either by reason of the prepayment of such assessment installments or otherwise, the Finance Director shall execute and record in the official records of the County of Sutter a notice stating that the assessment lien levied by the City Council resolution is being released.

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Public Works Department
Presentation By: Joshua Wolffe, Public Works Director

Summary

Subject: Construction Contingency Authorization

Recommendation: Adopt a Resolution which takes the following actions:

A. Authorizes previously identified contingency amounts for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26), 2026 Wastewater Collections Improvements Project (Contract No. 23-08), DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02), and Citywide Sign Upgrades Project (Contract No. 1315-CON-26) capital improvement projects

B. Authorizes the Public Works Director to modify the scope of work through change order(s) to the contracts for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26), 2026 Wastewater Collections Improvements Project (Contract No. 23-08), DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02), and Citywide Sign Upgrades Project (Contract No. 1315-CON-26) capital improvement projects

Fiscal Impact: No additional fiscal impact. Contingency amounts were previously included in project budgets approved by Council

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Purpose:

To facilitate the delivery of construction projects in the most cost effective and efficient manner allowable.

Strategic Focus Area:

This item addresses the City's Strategic Focus Area of improving the City's infrastructure in a fiscally responsible manner.

Background:

Council previously awarded construction contracts for the following capital improvement program projects:

- ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26)
- 2026 Wastewater Collections Improvements Project (Contract No. 23-08)

- DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02)
- Citywide Sign Upgrades Project (Contract No. 1315-CON-26)

At the time of award, construction contingency amounts were identified within the total project costs and fiscal impacts presented to Council and incorporated into the approved project budgets. The award resolutions authorized execution of the construction contracts; however, the resolutions did not expressly authorize expenditure of the contingency amounts or delegate authority for execution of change orders utilizing those contingency funds.

During review of project administration procedures, Finance staff requested additional Council authorization regarding the previously identified contingency funds.

Analysis:

Construction contingency funds are routinely established to address unforeseen site conditions, utility conflicts, quantity adjustments, design clarifications, regulatory requirements, and other circumstances encountered during construction.

The contingency amounts identified for each project were previously disclosed to Council as part of the total project costs and fiscal impacts presented in the award staff reports. These contingency amounts are available within the approved project budget amounts.

This action does not increase project budgets, authorize additional appropriations, or modify the scope of any previously approved project. Approval of this Resolution will provide express authority for administration of change orders utilizing the previously identified contingency amounts.

Future resolutions for award of construction contracts will include explicit authorization for requested contingency amounts and the construction contracts presented to Council will include authority for the Public Works Director to administer change orders utilizing the requested contingency amounts, where necessary.

Fiscal Impact:

There is no additional fiscal impact and no impact to the General Fund. The previously identified construction contingencies are as follows:

- ADA Ramp and Sidewalk Improvements Project $74,222.00 (10%)
- 2026 Wastewater Collections Improvements Project $144,696.00 (20%)
- DWR Urban Drought Relief – Turf Replacement Project $161,137.98 (10%)
- Citywide Sign Upgrades Project $211,960.65 (25%)

No additional project funding or appropriations are requested through this action.

Alternatives:

Decline to adopt the Resolution and require future change orders and contract amendments to return to City Council for approval, which may delay project delivery and will expose the City to potentially substantial project cost increases.

Recommendations:

Adopt a Resolution which takes the following actions:

A. Authorizes previously identified contingency amounts for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26), 2026 Wastewater Collections Improvements Project (Contract No. 23-08), DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02), and Citywide Sign Upgrades Project (Contract No. 1315-CON-26) capital improvement projects.

B. Authorizes the Public Works Director to modify the scope of work through change order(s) to the contracts for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26), 2026 Wastewater Collections Improvements Project (Contract No. 23-08), DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02), and Citywide Sign Upgrades Project (Contract No. 1315-CON-26) capital improvement projects.

Attachments:

1. Resolution - Construction Contingency Authorization

Prepared By:	Submitted By:
Nick Menezes	Josh Wolffe
Deputy Public Works Director - Engineering	Public Works Director

ATTACHMENT 1

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY AUTHORIZING EXPENDITURE OF PREVIOUSLY IDENTIFIED CONSTRUCTION CONTINGENCIES AND DELEGATING CHANGE ORDER AUTHORITY FOR PREVIOUSLY AWARDED CAPITAL PROJECTS

WHEREAS, on April 7, 2026, Council awarded a construction contract for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26) to FBD Vanguard Construction Inc. of Livermore, CA in the amount of their total bid of $742,215.00; and

WHEREAS, on February 17, 2026, Council awarded a construction contract for the 2026 Wastewater Collections Improvements Project (Contract No. 23-08) to North Star Construction & Engineering, Inc. of Yuba City, CA in the amount of their total bid of $732,480.00; and

WHEREAS, on March 3, 2026, Council awarded a construction contract for the DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02) to Superb Engineering, Inc. of Banning, CA in the amount of their total bid of $1,611,379.76; and

WHEREAS, on May 5, 2026, Council awarded a construction contract for the Citywide Sign Upgrades Project (Contract No. 1315-CON-26) to Square Signs, LLC of Burbank, CA in the amount of their total bid of $847,842.60; and

WHEREAS, construction contingency amounts were identified within the total project costs and fiscal impacts presented to Council at the time of contract award and incorporated into the approved project budgets; and

WHEREAS, the adopted Resolutions authorized execution of the construction contracts but did not expressly authorize expenditure of the contingency amounts or delegate authority for administration of change orders utilizing those contingency funds; and

WHEREAS, during review of project administration procedures, Finance staff requested additional Council authorization regarding the previously identified contingency funds; and

WHEREAS, no additional project funding or appropriations are being requested through this action; and

WHEREAS, Council finds it is in the best interest of the City to expressly authorize expenditure of the previously identified contingency amounts and delegate authority for administration of change orders within those approved limits.

NOW, THEREFORE, be it resolved by the City Council of the City of Yuba City as follows:

1. The City Council finds that all facts set forth in the recitals above are true and correct and incorporated herein by this reference.

2. The City Council authorizes expenditure of the previously identified contingency amount of $74,222.00 for the ADA Ramp and Sidewalk Improvements Project (Contract No. 1220-CON-26) and authorizes the Public Works Director to modify the scope of work through change order(s) to the contract to address changes in quantities or due to unforeseen circumstances arising during construction of the project within the contingency amount.

3. The City Council authorizes expenditure of the previously identified contingency amount of $144,696.00 for the 2026 Wastewater Collections Improvements Project (Contract No. 23-08) and authorizes the Public Works Director to modify the scope of work through change order(s) to the contract to address changes in quantities or due to unforeseen circumstances arising during construction of the project within the contingency amount.

4. The City Council authorizes expenditure of the previously identified contingency amount of $161,137.98 for the DWR Urban Drought Relief – Turf Replacement Project (Contract No. 24-02) and authorizes the Public Works Director to modify the scope of work through change order(s) to the contract to address changes in quantities or due to unforeseen circumstances arising during construction of the project within the contingency amount.

5. The City Council authorizes expenditure of the previously identified contingency amount of $211,960.65 for the Citywide Sign Upgrades Project (Contract No. 1315-CON-26) and authorizes the Public Works Director to modify the scope of work through change order(s) to the contract to address changes in quantities or due to unforeseen circumstances arising during construction of the project within the contingency amount.

6. This Resolution shall become effective immediately upon adoption.

The foregoing resolution was duly and regularly introduced, passed, and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____

Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY:

_____

Shannon Chaffin, City Attorney
Aleshire & Wynder, LLP

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Public Works Department
Presentation By: Joshua Wolffe, Public Works Director

Summary

Subject: WWTF Septage Receiving Station Project Contract No. 25-04 (Plans & Specifications)

Recommendation: Adopt a Resolution adopting a CEQA Class 1 Categorical Exemption, approving the plans and specifications, and authorizing advertisement for bids for the WWTF Septage Receiving Station Project

Fiscal Impact: Engineer's Estimate: $1,500,000 – Account No. 981329-65501 (Septic Station)

Purpose:

To improve wastewater treatment operations through installation of a new septage receiving station that protects treatment infrastructure, improves hauled wastewater management, and implements recommendations identified in the City's 2020 Wastewater Treatment Facility and Collection System Master Plan.

Strategic Focus Area:

This project addresses the City Council's Strategic Focus Area of improving the City's Infrastructure, while maintaining fiscal responsibility.

Background:

The City of Yuba City's Wastewater Treatment Facility (WWTF) receives septage and other hauled wastewater from commercial haulers. The existing receiving process provides limited screening capability and limited ability to accurately monitor hauled wastewater volumes entering the treatment facility.

As part of the 2020 Wastewater Treatment Facility and Collection System Master Plan, the City identified construction of a Septage Receiving Station as a recommended WWTF improvement project. The Master Plan included the facility within the recommended Capital Improvement Program and identified the improvement as necessary to support continued reliable treatment plant operations.

Consistent with the Master Plan recommendations, staff initiated the Wastewater Treatment Facility Septage Receiving Station Project (25-04) to design and construct a dedicated receiving facility for hauled wastewater. Design services were completed by HERWIT Engineering, which specializes in wastewater treatment facility infrastructure and has extensive familiarity with the City's wastewater

treatment facilities.

On June 17, 2025, City Council awarded the purchase of a Franklin Miller Spiralift Model SR30 Septage Receiving Station and related equipment to Franklin Miller Inc. of Livingston, New Jersey in the amount of $400,000, including tax and contingency. The equipment purchase was authorized in advance of construction due to the manufacturer's estimated 32- to 34-week lead time and to avoid future price escalation and contractor markup. The equipment has since been procured and is intended to be incorporated into the proposed Septage Receiving Station Project.

Analysis:

The proposed project generally includes:

- Construction of a new septage receiving station.
- Screening equipment to remove debris and non-compatible materials.
- Flow monitoring and metering equipment.
- Site piping, valves, electrical, instrumentation, and controls.
- Concrete improvements, access improvements, and related appurtenances.
- Integration with existing wastewater treatment facility infrastructure.

The project will improve operational reliability by screening damaging debris and non-compatible materials from hauled wastewater prior to entering the treatment process. These improvements will help protect pumps, piping, valves, and treatment equipment from premature wear, clogging, and damage while reducing maintenance requirements. The facility will also allow staff to accurately monitor hauled wastewater deliveries, including tracking hauler activity and delivered volumes, ensuring user fees appropriately reflect impacts to the wastewater treatment system while providing improved operational data for facility management.

Construction of the septage receiving station implements a specific recommendation identified in the City's adopted Wastewater Master Plan and represents an investment in maintaining and improving existing wastewater treatment infrastructure.

The plans, specifications, and estimate for the WWTF Septage Receiving Station Project were prepared by HERWIT Engineering and reviewed by Public Works staff. With Council approval of the plans and specifications and authorization to bid, staff anticipates the following schedule to complete the project:

Advertise for bid: June/July 2026
Open bids: July 2026
Award contract: July 2026
Start of construction: Fall 2026
Complete construction: Winter 2026/27

The plans and specifications for the project are on file in the Public Works Department at City Hall and at https://www.yubacity.net/public_works_plans/index.php for review.

Fiscal Impact:

The total estimated project cost is approximately $1,500,000, consisting of:

- Septage Receiving Station Equipment (previously approved by City Council): $400,000
- Construction, construction contingency, construction management, inspection, and testing:

$1,100,000

Funding for the project is available within CIP Account No. 981329-65501 (Septic Station). Final project costs and funding requirements will be presented to City Council at the time of contract award based on actual bid amounts.

Environmental:

Staff has determined that this project falls within the Class 1 Categorical Exemption set forth in CEQA Guidelines Section 15301 as a minor alteration of an existing public wastewater treatment facility involving negligible or no expansion of existing use. The project consists of installation of screening, monitoring, and receiving facilities associated with an existing hauled wastewater receiving operation at the Wastewater Treatment Facility. Furthermore, none of the exceptions to categorical exemptions identified in CEQA Guidelines Section 15300.2 apply.

Recommendation:

Adopt a Resolution adopting a CEQA Class 1 Categorical Exemption, approving the plans and specifications, and authorizing advertisement for bids for the WWTF Septage Receiving Station Project.

Alternatives:

1. Do not approve the plans and specifications and delay implementation of a Wastewater Master Plan recommended improvement project. Delaying the project would postpone operational and infrastructure protection benefits associated with improved septage receiving and screening.
2. Direct staff to modify the proposed plans and specifications.

Attachments:

1. Resolution - WWTF Septage Receiving Station Project Contract No. 25-04
2. Yuba City Septage Spec - Final
3. Final Set Plans

Prepared By:
Nick Menezes
Deputy PW Director - Engineering

Submitted By:
Josh Wolffe
PW Director

ATTACHMENT 1

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY ADOPTING A CEQA CLASS 1 CATEGORICAL EXEMPTION, APPROVING THE PLANS AND SPECIFICATIONS FOR THE WWTF SEPTAGE RECEIVING STATION PROJECT (25-04), AND AUTHORIZING ADVERTISEMENT FOR BIDS ON THE PROJECT

WHEREAS, the City of Yuba City's 2020 Wastewater Treatment Facility and Collection System Master Plan identified construction of a Septage Receiving Station as a recommended Wastewater Treatment Facility project; and

WHEREAS, staff initiated the WWTF Septage Receiving Station Project (25-04) to improve wastewater treatment facility operations through installation of a dedicated septage receiving station; and

WHEREAS, on June 17, 2025, the City Council authorized procurement of a Franklin Miller Spiralift Model SR30 Septage Receiving Station and related equipment for incorporation into the Project; and

WHEREAS, HERWIT Engineering has prepared plans and specifications for construction of the WWTF Septage Receiving Station Project (25-04); and

WHEREAS, the Project will improve operational reliability by screening damaging debris and non-compatible materials from hauled wastewater prior to entering the treatment process and will provide improved monitoring and management of hauled wastewater deliveries; and

WHEREAS, the Public Works Department desires to solicit bids for construction of the WWTF Septage Receiving Station Project (25-04) (Project).

NOW, THEREFORE, be it resolved and ordered by the City Council of Yuba City as follows:

1. The City has performed a preliminary environmental assessment of this project relative to California Environmental Quality Act (CEQA) requirements and the City Council finds and determines that the Project falls within the Class 1 Categorical Exemption set forth in CEQA Guidelines Section 15301 as a minor alteration of an existing public wastewater treatment facility involving negligible or no expansion of existing use. The Project consists of installation of screening, monitoring, and receiving facilities associated with an existing hauled wastewater receiving operation at the Wastewater Treatment Facility. Furthermore, none of the exceptions to categorical exemptions identified in CEQA Guidelines Section 15300.2 apply.

2. The plans and specifications for the WWTF Septage Receiving Station Project (25-04) are hereby approved.

3. The Public Works Department is hereby authorized and directed to advertise for bids for the Project.

The foregoing Resolution was duly and regularly introduced, passed, and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

Marc Boomgaarden, Mayor

ATTEST:

Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY:

Shannon Chaffin, City Attorney
Aleshire & Wynder, LLP

TECHNICAL SPECIFICATIONS

FOR

CITY OF YUBA CITY WASTEWATER TREATMENT FACILITY

Septage Hauling and Receiving Station

VOLUME 1 OF 2

PREPARED FOR

City of Yuba City
Public Works Department
1201 Civic Center Blvd.
Yuba City, CA 95993

CITY OF YUBA CITY WASTEWATER TREATMENT FACILITY

TECHNICAL SPECIFICATIONS

FOR

SEPTAGE HAULING AND RECEIVING STATION

VOLUME 1 OF 2

City of Yuba City
Public Works Department
1201 Civic Center Blvd.
Yuba City, CA 95993







YUBA CITY

HERWIT ENGINEERING

May, 2026
Cover2.docx

SECTION 00001

PROJECT TITLE PAGE

Project Name:	Septage Hauling and Receiving Station
Project Number:	25-04
Location:	Yuba City Wastewater Treatment Facility, 302 Burns Dr, Yuba City, CA 95991

City Representative

Name	Leticia Villalobos
Address	1201 Civic Center Boulevard, Yuba City, CA 95993
Contact Phone Number	(530) 822-4769
Contact Email Address	lvillalobos@yubacity.net

Construction Manager:

Company Name	Same as City Representative
Company Address	

Design Engineer:

Company Name	Herwit Engineering
Company Address	6200 Center Street, Suite 310, Clayton, CA94517

END OF SECTION

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SECTION 00010

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ATTACHMENTS

Attachment A:

Table 1. Summary of Submittals

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END OF SECTION

CITY OF YUBA CITY
SEPTAGE HAULING AND RECEIVING STATION

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CITY OF YUBA CITY
SEPTAGE HAULING AND RECEIVING STATION

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03300 CAST-IN-PLACE CONCRETE
03366 TOOLED CONCRETE FINISHES
03600 GROUTS

DIVISION 5 - STEEL

05120 STRUCTURAL STEEL
05500 METAL FABRICATIONS

DIVISION 6 - WOOD AND PLASTICS

Not Used

DIVISION 7 - THERMAL AND MOISTURE

Not Used

DIVISION 9 - FINISHES

09960 HIGH PERFORMANCE COATINGS

DIVISION 10 - SPECIALTIES

10400 IDENTIFICATION DEVICES

DIVISION 11 - EQUIPMENT

11010 INSTALLATION OF OWNER SUPPLIED SEPTAGE RECEIVING EQUIPMENT

DIVISION 13 - SPECIAL CONSTRUCTION

Not Used

DIVISION 15 - MECHANICAL

CITY OF YUBA CITY
SEPTAGE HAULING AND RECEIVING STATION

TECHNICAL SPECIFICATIONS

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SECTION 00100

NOTICE INVITING BIDS

ARTICLE 2 — BID OPENING

2.02 **NOTICE IS HEREBY GIVEN** that the City of Yuba City (hereafter referred to as "City" or "Owner") invites and will receive sealed Bids at the City Hall, City Clerk's Office, 1201 Civic Center Boulevard, Yuba City, CA, 95993, until **2:00 p.m. local time, on July 14, 2026**, at which time bids will be publicly opened and read aloud in the City's Board Room for the following project.

SEPTAGE HAULING AND RECEIVING STATION
PROJECT NO. 25-04

NO LATE BIDS WILL BE ACCEPTED.

ARTICLE 3 — PROJECT INFORMATION

3.02 DESCRIPTION OF THE WORK

The Project consists of the installation of Owner supplied Septage Receiving Station equipment, including the construction of concrete pad, roadways, drain/sewer pipelines, manholes, electrical service, other equipment, and associated miscellaneous improvements as **indicated on the Drawings** and as detailed elsewhere in the Contract Documents.

3.03 CERTIFICATES OF EXPERIENCE AND QUALIFICATIONS

Due to the complexity and scope of this critically important project, the City requires minimum prior related successful project experience for Contractors and Contractor's Project Manager. These requirements are found in Section 00480, Certification of Bidder's Experience and Qualifications.

3.04 ESTIMATED COST OF THE WORK

The estimated cost for this work is: **$1,500,000**

3.05 CONTRACT TIME

The Contract Time for the completion of all the Work of the Project is **215 (Two hundred fifteen)** calendar days.

ARTICLE 4 — CONTRACT DOCUMENTS

4.02 Plans, specifications, and proposal forms for bidding this Project can be obtained from the Public Purchase on-line bidding service. Registration is required to use the service. There is no charge to register or obtain bid documents in digital format.

Log onto: https://www.Yuba City.ca.us/bid-project or www.publicpurchase.com

Once you have registered, search for the project title identified on the cover of this specification. The Project Plans and Specifications may be available for viewing at a Contractor's Exchange. Contact Exchanges directly to inquire about availability. All addenda notifications will be emailed to plan holders by Public Purchase and may be obtained from the Public Purchase on-line bidding service.

All questions and requests for information regarding the project must be submitted through Public Purchase on the project link. Responses to questions will be distributed to plan holders via Public Purchase. Questions and Requests for Information must be submitted five (5) business days prior to bid opening.

4.03 All Bidders must obtain a complete electronic bid set of Contact Documents in order to be considered responsive and to receive addenda notifications.

4.04 Complete sets of Contract Documents must be used in preparing Bids. The City does not assume responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract

Documents. Bidders shall develop and submit Bids at their own expense. The City will not reimburse any costs associated with the development and submittal of any and all Bids.

4.05 Bidding procedures are prescribed in the Contract Documents. Bids shall be executed upon the Bid Forms bound and made a part of the Contract Documents. Any exception taken to the Contract Documents and any changes made to terms and conditions of the Bid Forms may render the Bid non-responsive. All prescribed Bid Forms may be removed from the Contract Documents for submission in a sealed envelope.

4.06 The City, in making copies of the Contract Documents available on the above terms, does so only for the purpose of obtaining Bids for the Work and does not confer license or grant for any other use.

ARTICLE 5 — NON-MANDATORY PRE-BID MEETING AND SITE WALK

5.02 A non-mandatory pre-bid meeting and project walk-through will be held on **Wednesday, July 8, 2025, at 10:00 a.m. at the Wastewater Treatment Facility (302 Burns Drive)**. Shortly after this pre-bid meeting, a project site walk-through will occur at the project site location.

5.03 At the pre-bid meeting, representatives of City and City's consultants will discuss the Bid Form documents, site constraints, order of work and other items specific to this Project. The City will transmit to all recipients of complete sets of Contract Documents such Addenda as it considers necessary in response to questions raised at the meeting and project walk-through. Oral statements not confirmed by Addenda may not be relied upon and are not binding or legally effective. If a Bidder is unable to attend the pre-bid meeting and site walk, Bidder should contact the City during normal City business hours to schedule a site visit at least three days prior to their requested site visit. During all site visits the Bidder must be accompanied full time by an authorized representative of the City. No exceptions to this requirement.

Bidders must acknowledge meeting this site visit requirement (See Section 00420, Site Visit Affidavit).

ARTICLE 6 — BID SECURITY AND BONDS

6.02 Each Bid must also be accompanied by security in the form of a Bidder's Bond issued by a corporate surety, a certified check, or cashier's check payable to the City, or cash for an amount not less than ten percent (10%) of the Total Bid Price.

6.03 The successful Bidder shall be required to execute a Material and Labor Payment Bond and Performance Bond, issued by a corporate surety, in conformance with the requirements set forth in the Contract Documents, each for not less than one hundred percent (100%) of the Contract Price.

6.04 Pursuant to California Code of Civil Procedures Section 995.311, the City will verify all bonds for this Project are issued and executed by a California admitted surety.

ARTICLE 7 — INQUIRIES

7.02 Inquiries regarding further information about the Project may be directed to Leticia Villalobos, Assistant Civil Engineer at lvillalobos@yubacity.net.

ARTICLE 8 — LAWS AND REGULATIONS

8.02 CONTRACTOR'S LICENSE CLASSIFICATION AND REQUIREMENTS

Bidders and their proposed subcontractors shall hold such licenses as may be required by the laws of the State of California for the performance of the work specified in the Contract Documents. Bidders bidding as the prime Contractor shall possess a valid California Contractor's License at the time the bid is submitted and throughout the contract term. The Contractor will also be required to ensure that all subcontractors working on this project are holding valid licenses suitable for their trade.

8.03 DEPARTMENT OF INDUSTRIAL RELATIONS REGISTRATION

No Contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the State of California Director of Industrial Relations (DIR) pursuant to California Labor Code Section 1725.5 [with limited exceptions from this requirement for bid purposes only under California Labor Code Section 1771.1(a)]. No Contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the DIR pursuant to California Labor Code Section 1725.5. If awarded a contract, the Contractor and its subcontractors, of any tier, shall maintain active registration with the DIR for the duration of the Project.

8.04 CALIFORNIA LABOR CODE

This Project is subject to the general prevailing rate of per diem wages as determined by the State of California Director of Industrial Relations, and travel and subsistence pay as such are defined in applicable collective bargaining agreements filed in accordance with Section 1773.8 of said Labor Code, for work needed and performed on this Project. Said determinations, in effect at the time of publishing this notice, are on file at the above identified City office and may be examined at said office. Interested parties shall contact the City office to make arrangements for viewing. These rate determinations may also be found on the DIR's website at http://www.dir.ca.gov/OPRL/dprewagedetermination.htm .

The successful bidding Contractor and its subcontractors shall employ the appropriate number of apprentices, in each apprentice able craft, on the project site as stipulated in California Labor Code Section 1777.5.

Pursuant to California Labor Code Section 1771.4, this Project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

8.05 CALIFORNIA PUBLIC CONTRACT CODE 22300

Pursuant to California Public Contract Code Section 22300, for monies earned by the Contractor and withheld by the City to ensure the performance of the Contract, the Contractor, may, at its option, choose to substitute securities meeting the requirements of California Public Contract Code Section 22300, or have the retained, earned monies deposited in an escrow account at a federal or state-chartered bank.

8.06 CALIFORNIA PUBLIC CONTRACT CODE 3400

In accordance with California Public Contract Code Section 3400, Bidders may propose equals of products listed in the technical specifications or project plans by manufacturer name, brand or model number, unless the technical specifications or plans specify that the product is necessary to match others in use. Complete information for products proposed as equals must be submitted to the City's Office for review at least thirty (30) calendar days after the date of Notice to Proceed. The City may specify a product by a particular manufacturer on a "sole-sourced" basis for the following reasons:

(1) In order that a field test or experiment may be made to determine the product's suitability for future use.
(2) In order to match other products in use on a particular public improvement either completed or in the course of completion.
(3) In order to obtain a necessary item that is only available from one source.

ARTICLE 9 — CITY'S RIGHTS

9.02 The City reserves the right to award the Contract, to reject any or all Bids, to waive non-material and inconsequential irregularities in any Bid, and to reject nonconforming, nonresponsive, non-responsible, or conditional Bids.

9.03 No Bid received and read aloud may be withdrawn for a period of sixty (60) days after the bid opening date, except pursuant to California Public Contract Code Section 5101.

9.04 Bids are required for the "Base Bid Schedule" and Add-Alternate Bid Schedule. Award will be based on the lowest responsible and responsive bid for the "Base Bid Schedule". The City may exclude items listed on the Add-Alternate Bid Schedule, from the Contract, at the City's Discretion

END OF SECTION

SECTION 00200

INSTRUCTIONS TO BIDDERS

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ARTICLE 1 — GENERAL

1.1 Bidder must examine these instructions to Bidders carefully and respond to all requirements and conditions.

1.2 Bidders must be aware of the requirements of codes, permits and standards referenced in the Contract Documents.

ARTICLE 2 — WORK TO BE DONE

2.1 It is the intention of the City to construct improvements as shown and set forth in the Contract Documents titled: Septage Hauling and Receiving Station Project. All of the Work is particularly set forth in the Contract Documents, and all of said Work, together with all other work incidental thereto, is included. The Work includes the furnishing of all labor, materials, equipment, tools, supervision, incidentals, transportation and services necessary for completion of the Project. Codes and Standards, definition of words and terms, and abbreviations shall be as specified in the Contract Documents.

ARTICLE 3 — COMPETENCE OF BIDDERS AND SUB-BIDDERS

3.1 All Bidders must complete and submit with their Bid the following Certifications:

A. Section 00480, Certification of Bidder’s Experience and Qualifications.

Failure to provide this information within the prescribed Bid deadlines may render the Bid non-responsive and may be the basis for rejection of the Bid.

ARTICLE 4 — COMPLIANCE WITH CONTRACTOR’S LICENSE LAWS

4.1 Bidder's attention is directed to the provisions of Chapter 9 of Division 3 of the California Business and Professions Code ("Contractors”), and of California Public Contract Code Section 3300. The Contractor must possess the required classification of Contractor's License at the time the Bid is submitted (per Business and Professions Code Section 7028.15). If federal funds are involved in this project, the Contractor must possess the required classification of Contractor's License at the time of the Contract Award (per California Public Contract Code Section 20103.5).

4.2 If a Bidder does not possess the required Contractor's License at the time a Bid is submitted, in accordance with Business and Professions Code Section 7028.15, the Bid will be considered nonresponsive and will be rejected by the City. The City may require forfeiture of the Bidder's Bond.

4.3 Joint venture Bidders must possess a joint venture license. Each party to a joint venture must be properly licensed for the Work of this Project.

ARTICLE 5 — PRIOR DISQUALIFICATION

5.1 Bid may be rejected on the basis of a Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, having been disqualified, removed or otherwise prevented from Bidding on, or completing a federal, state or local project because of a violation of a law or a safety regulation.

5.2 The City will review the circumstances presented in the Bid Form certification. The City will determine if acceptance of the Bid is in its best interest.

ARTICLE 6 — EXAMINATION OF CONTRACT DOCUMENTS

6.1 Each Bidder shall thoroughly examine and become familiar with the Contract Documents and Addenda (if any).

6.2 The submission of a Bid shall constitute an acknowledgment upon which the City may rely that the Bidder has thoroughly examined and is familiar with the Contract Documents and that, except as provided in the Pre-Bid Protest Procedures in Article 26 below, the Bidder has waived

any objections or contentions regarding the Contract Documents and/or the bidding requirements in the Contract Documents.

6.3 The failure or neglect of a Bidder to receive or examine any of the Contract Documents shall in no way relieve it from any obligation with respect to its Bid or to the Contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any Contract Documents.

6.4 The submission of a Bid will be conclusive evidence that the Bidder has investigated and is fully aware of the conditions and difficulties that may be encountered including the availability of labor and materials to be provided, of the character, quality and quantities of Work to be performed, and of the requirements of all Contract Documents.

ARTICLE 7 — NOVEL CORONAVIRUS (COVID-19) SAFETY REQUIREMENTS

7.1 Given the COVID-19 impacts to society preceding the bidding of this Project, as well as the prospective performance of the Work, it is paramount that each Bidder recognize these impacts and changes which include social distancing, ability to have commerce perform at the desired pace, different labor interaction, increased safety measures, and a myriad of other impacts to construction operations. Heightened and increased measures to protect persons from illness, and the adoption and implementation of many new and increased practices, will make the performance of construction work different and more challenging.

7.2 It is the intent of the City, by including the previous paragraph, as well as Section 01170, Novel Coronavirus (COVID-19) Safety Requirements, to alert all Bidders for all aspects of this Project, that they are to include in their Bids all known and reasonably estimated costs and impacts to the ability to obtain goods and materials required, as well as labor to perform the Work. Further, all costs for all of these and other aspects of the project, including supervision, testing, inspection, QA/QC, etc. (this listing is intended to be illustrative and not comprehensive) shall be evaluated by each Bidder so their Bid submitted to the City includes all such perceived impacts in recognition of the foregoing and subsequent notices in this and other sections of the Contract Documents.

7.3 Each Bidder is to critically appraise and evaluate the reasonably anticipated costs and time impacts, if any, which may need to be accounted for in light of the COVID–19 pandemic and all governmental directives and requirements, and commercial impacts, arising therefrom.

7.4 It is the responsibility of each Bidder to alert all Sub-Bidders (potential subcontractors and suppliers of every tier and trade) to also factor in the above-referenced COVID-19 cost and time impacts, if any, into their sub-bids to Bidders for any and all aspects of the Project.

7.5 By submitting a Bid for this Project, each Bidder represents to the City they included in their Total Bid Price all cost impacts, whether affecting labor (including, but not limited to obtaining qualified workers, quantity of workers, as well as their productivity), deliveries, supervision, testing and/or procurement of materials and/or equipment and time caused by COVID-19 safety requirements found in Section 01170 and also all public health and/or governmental directives in place at the time Bids are received by the City for this Project. Furthermore, each Bidder recognizes they will not be entitled to a change order granting a COVID-19 related time extension and/or for any COVID-19 related increased costs, which arise from Section 01170, Novel Coronavirus (COVID-19) Safety Requirements and/or from all public health and/or governmental directives in place at the time Bids are received by the City for this Project.

ARTICLE 8 — EXAMINATION OF PROJECT SITE AND PRE-BID ACCESS TO THE SITE

8.1 Prior to submitting a Bid, it will be the sole responsibility of each Bidder to conduct any additional examination, investigation, exploration, test, study or other inquiry, and obtain any additional information pertaining to the physical conditions (including surface, subsurface, and underground utilities) at or near the Project site that may affect the cost, progress, or performance of the Project, and that the Bidder deems necessary to prepare its Bid for performance of the Project in accordance with the Contract Documents. Bidders seeking any

such additional examination or other inquiries or information concerning the Project will do so at the Bidder's sole expense.

8.2 Bidders seeking to conduct any additional examination or other inquiry at the Project site must request site access from the City by contacting at least three (3) working days in advance to:

Leticia Villalobos
City of Yuba City
1201 Civic Center Boulevard
Yuba City, CA 95993
(530) 822-4769
lvillalobos@yubacity.net

8.3 If, during the course of its site inspection, a Bidder finds conditions which appear to be in conflict with the letter or spirit of the Contract Documents, the Bidder may apply to the City, in writing, for additional information and explanation at least ten (10) calendar days before the time specified for opening the Bids.

8.4 Where investigation of subsurface conditions has been made by City in respect to foundation or other design, Bidders may inspect City's records of such investigation, including examination of samples and drill cores, if any.

8.5 When logs of test borings indicating a record of the data obtained by City's investigation of subsurface conditions are made available, said logs represent only the investigator's opinion as to the character of material encountered in test borings and are made available only for the convenience of Bidders.

8.6 Investigation of subsurface conditions is made for the purpose of design, and City assumes no responsibility, whatsoever, in respect to the sufficiency of test borings, accuracy of the log of test borings, of other preliminary investigations, or in the interpretation thereof. There is no warranty or guarantee, express or implied, that the conditions indicated are representative of those existing throughout the Work, or any part of it, or that unforeseen conditions may not be encountered.

8.7 Making information available to Bidders is not to be construed in any way as a waiver of the aforesaid provisions, and Bidders must satisfy themselves through their own investigations as to conditions to be encountered.

8.8 No information derived from such inspection of records of preliminary investigations made by City, or from the maps, Drawings or Contract Documents, relieve Contractor from any risk or from properly fulfilling all the terms of the Contract. Records of such preliminary investigations as may have been made by City may be inspected by contacting the City’s Project Manager identified in the Notice Inviting Bids.

8.9 Failure by Bidder to educate itself with available information will not relieve Bidder from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The information provided by the City is not intended to be a substitute for, or a supplement to the independent verification by the Bidder to the extent such independent investigation of site conditions is deemed necessary or desirable by the Bidder.

8.10 Submission of a Bid by the Bidder shall constitute conclusive evidence that, if awarded the Contract, it has relied upon and is relying on its own examination of (1) the site of the Work, (2) access to the site, (3) all other data and matters requisite to the fulfillment of the Work and on its own knowledge of existing facilities on and in the vicinity of the site of the Work to be constructed under the Contract, (4) the conditions to be encountered, (5) the character, quality and scope of the proposed Work, (6) the quality and quantity of the materials to be furnished, and (7) the requirements of the Contract Documents, and other related information made available to Bidders by the City (see Section 00300, Supplemental Project Information Available to Bidders).

8.11 Bidders are required to inform themselves fully of the conditions relating to the construction and labor under which the Work will be or is now performed, and, so far as possible, the

successful Bidder must employ such means and methods in carrying out its Work as will not cause any interruption or interference with any other contractor.

ARTICLE 9 — INTERPRETATION OF CONTRACT DOCUMENTS AND ADDENDA

9.1 If any person contemplating submitting a Bid is in doubt as to the intended meaning of any part of the Contract Documents, or finds discrepancies in, or omissions in the Contract Documents, that person must submit a written request for an interpretation or correction thereof at least seven (7) calendar Days before the deadline for receipt of Bids.

9.2 Inquiries regarding further information about the Contract Documents may be submitted electronically to *www.publicpurchase.com*. It is the Bidder's sole responsibility to ensure that the question is received by the above designated recipient in a timely manner.

9.3 Any request received fewer than seven (7) calendar days before the said deadline may not be answered. The person submitting the request will be responsible for its prompt delivery.

9.4 Any interpretation or correction of the Contract Documents will be made only by Addendum and will be sent to each plan holder by e-mail, to the e-mail where the project documents were sent.

9.5 The City is not responsible for any explanation or interpretation of the Contract Documents not communicated to Bidders in an Addendum. If no Addenda are issued relating to supposed discrepancy, conflict, omissions or errors in figuring the Work, the supposed discrepancies, conflicts, or omissions are governed by Section 00700-1.05, Order of Precedence of the Contract Documents.

9.6 The City reserves the right to revise or amend any part of the Contract Documents, including but not limited to, the specifications, up to the time set for opening the Bids. Such revisions and amendments, if any, shall be announced by written addenda. Copies of such written addenda shall be furnished to all recipients of complete sets of Contract Documents. Addenda issued during the time of bidding shall become a part of the documents furnished Bidders for the preparation of Bids, shall be covered in the Bids, and shall be made a part of the Contract Documents. Each Bid shall include specific acknowledgment in the space provided of receipt of all Addenda issued during the bidding period. Failure to acknowledge may result in the Bid being rejected as not responsive. Failure of any Bidder to receive such Addenda shall not be grounds for non-compliance with the terms of the instructions.

9.7 Should the Bidder find patent ambiguities in the Contract Documents, the Bidder shall at once notify the City of such findings in writing prior to opening of the Bids. Replies to such notification of patent ambiguities may be made in the form of Addenda, which will be issued simultaneously to all persons who have obtained a copy of the Contract Documents from the City. Failure of the Bidder awarded the Contract to notify the City of such patent ambiguity shall eliminate any and all recourse, including time extensions and Contract price adjustments the Bidder may have, against the City occurring as a result or arising out of such patent ambiguity.

ARTICLE 10 — BIDDER'S SECURITY

10.1 Each Bid must be accompanied by cash, a certified or cashier's check, or an original Bidders Bond in an amount not less than ten percent (10%) of the total aggregate of the Total Bid Price to be used in determining the lowest monetary Bid for the Project.

10.2 A Bid will be considered non-responsive if not accompanied by proper Bidder's Security.

10.3 The original Bid Bond must be provided by an admitted Surety insurer, authorized to issue Surety bonds in the State of California, and it must execute the Bid Bond.

10.4 Bonds and checks must be made payable to "City of Yuba City".

10.5 All bonds must be provided on the forms included with the Contract Documents or the Bid will be considered non-responsive.

ARTICLE 11 — BID FORM

11.1 Prospective Bidders are furnished Bid forms which must be submitted as listed below.

BID FORMS FOUND IN INDIVIDUAL SPECIFICATION SECTIONS SHOWN BELOW MUST BE SUBMITTED AT TIME OF THE BID

1. Bid Form (Section 00400)
2. Bid Bond (Section 00410)
3. Site Visit Affidavit (Section 00420)
4. Designation of Subcontractors (Section 00430)
5. Schedule of Major Equipment and Material Suppliers (Section 00435)
6. Non-Collusion Declaration (Section 00440)
7. Debarment Certification (Section 00445)
8. Certification of Drug Free Workplace (Section 00450)
9. Iran Contracting Act Certification (Section 00460)
10. Certification of Bidder's Experience and Qualifications (Section 00480)
11. Statement of Safety Compliance (Section 00490)
12. Bidder's Signature Authority (see item 11.3.C below)

11.2 A Bid not submitted on the Bid forms furnished by the City will be considered non-responsive.

11.3 Completing the Bid Forms:

A. Bidder's name must be the same as listed on Bidder's California State Contractor's license provided by Bidder on its Bid Form and also Bidder's DIR registration provided on its Bid Form.

B. Bid price(s) must be in the manner required by the Bid Form.

C. Bid Form must be signed by Bidder or duly authorized representative.

1. If Bidder is an individual, name must be stated.

2. If Bidder is a partnership, name of the partnership must be stated, and one or more partners must sign the Bid Form.

3. If Bidder is a corporation, name of the corporation must be stated, the state of incorporation must be listed, the title of the person with authority to sign and bind corporation, must be stated, and the corporate seal must be affixed. **If the Bid is made by a corporation; a copy of the bylaws or resolution of the Board of Directors of the corporation shall be furnished, showing the authority of the officer signing the Bid, to execute Bid on behalf of the corporation**.

4. If Bidder is a Limited Liability Company (LLC), state the name of the LLC exactly as it appears on file with the California Secretary of State, including the entity ending (ex: "Jones & Company, LLC" or "Smith Construction, a Limited Liability Company". Signature of the LLC's Managing Partner or Officer must include attached evidence of authority to bind the LLC under the LLC's articles of organization. **Additionally, the Bid shall include a copy of the LLC resolution or agreement empowering the authorized representative to execute the Bid and bind the LLC.**

5. If the Bid is made by a joint venture, the Bid shall be signed by an authorized representative of the sponsoring partner of the joint venture. **Additionally, the Bid**

shall include a copy of the joint venture resolution or agreement empowering the authorized representative to execute the Bid and bind the joint venture.

6. Bidder's business and mailing address must be stated.

11.4 Required Listing of Major Equipment Items

A. Certain items of major equipment to be provided under this Contract are tabulated in the Section 00435, Schedule of Major Equipment and Material Suppliers. The Bidder shall designate the name of the manufacturer of the equipment to be provided for each major equipment item and submit this form with its Bid. By so indicating, the Bidder warrants that equipment manufactured and/or supplied by the designated manufacturer will be provided on the Project. See Section 00435 for additional instructions and requirements.

ARTICLE 12 — SUBMISSION OF BID FORMS

12.1 Bid Forms must be completed in ink or typed, completely filled out, and submitted on the Bid Form furnished as part of the Contract Documents. Faxed Bids will not be considered by City. All signatures on the Bid Forms shall be wet signatures.

12.2 It is the sole responsibility of the Bidder to ensure that its Bid is received at the proper time and at the proper location. Bids received after the time fixed for receiving them will not be considered.

12.3 Late Bids will be returned by the City to the Bidder unopened.

12.4 The Bid Form submitted must not contain any erasure, interlinear additions, or other corrections unless each such correction is authenticated. Authentication may be made by affixing in the margin, immediately opposite the correction, the signature of the person submitting the Bid.

12.5 Changes in or additions to the Bid Form, recapitulations of the Work bid upon, alternative or additive bids, or any other modifications of the Bid Form which are not specifically called for in Section 00400, Bid Form, may result in rejection of the Bid by the City. The City may treat all such Bids as not being responsive to the Notice Inviting Bids.

12.6 The City will consider no oral, telephonic or email modification of any Bid submitted.

12.7 Each Bid shall be enclosed in a sealed envelope distinctly marked "BID" and include:

- **Project title as given,**
- **Date and Time of Bid Opening,**
- **Name and address of Bidder, and**
- **Attention: City Clerk**

A Federal Express, UPS, or other courier delivery envelope is not considered the sealed "BID" envelope. Such delivery envelope must also be marked with the above required information.

Failure to mark sealed envelopes may result in a premature opening of, or failure to open, such Bid. Bid submissions with improperly marked sealed envelopes may be disregarded.

12.8 Bids shall either be (1) delivered in person at the designated location at the City of Yuba City office located at 1201 Civic Center Boulevard, Yuba City, CA 95993, during normal business hours, being 8 a.m. to 5 p.m., Monday through Thursday, or, (2) mailed to "Office of the City Clerk of the City of Yuba City located at 1201 Civic Center Boulevard, Yuba City, CA 95993, so that either delivery method is received by the Bid submission deadline time and date.

12.9 The preparation of a Bid shall be by and at the expense of the Bidder.

ARTICLE 13 — WITHDRAWAL OF BID

13.1 Any Bid may be withdrawn at any time before the time fixed in the Notice Inviting Bids, or as postponed by Addenda, for the opening of Bids only by written request of the Bidder or a duly authorized representative.

13.2 Withdrawal of a Bid does not prejudice the right of the Bidder to file a new Bid at any time prior to the time fixed for receiving Bids in the Notice Inviting Bids, or as postponed by Addenda.

13.3 Whether or not Bids are opened exactly at the time stated in the Notice Inviting Bids, or as postponed by Addenda, a Bid will not be accepted after the time stated.

13.4 After the opening of Bids, Bids may only be withdrawn in accordance with the provisions of California Public Contract Code Sections 5100-5107.

ARTICLE 14 — PUBLIC OPENING OF BIDS

14.1 Bids will be opened and read publicly at the time and place indicated in the Notice Inviting Bids. Bidders or their authorized agents are invited to be present.

ARTICLE 15 — REJECTION OF IRREGULAR BIDS

15.1 The City may reject any Bid if there appears to be any alteration of the Bid Form, any addition or condition not called for, or any incompleteness, erasure or irregularity of any kind.

15.2 Bids not completed in Ink or typed will be rejected.

15.3 If the Bid amount or other material information is changed, the change must be authenticated by affixing immediately next to the correction, the initials of the person submitting the Bid.

ARTICLE 16 — COMPETITIVE BIDDING

16.1 More than one Bid from an individual, firm, partnership, corporation, or combination thereof, as a principal, under the same or different names will not be considered. Reasonable basis for believing that any individual, firm, partnership, corporation, or combination thereof is a principal in more than one Bid for the Work contemplated may cause the rejection of all Bids in which such individual, firm, partnership, corporation, or combination thereof is a principal.

16.2 If there is a reason for believing that collusion exists among the Bidders, any or all Bids may be rejected.

16.3 A person, firm, or corporation submitting a sub-bid to a Bidder, or who quoted prices on materials to a Bidder, is not thereby disqualified from submitting a sub-bid or quoting prices to other Bidders or from being a principal Bidder for the same Work.

16.4 Bids in which unit prices are obviously unbalanced may be rejected.

16.5 Bidders are put on notice that any collusive agreement fixing the prices to be Bid so as to control or affect Awarding of the Contract is in violation of competitive bidding requirements of the Public Contract Code and may render void any Contract let under such circumstances.

ARTICLE 17 — ESTIMATED QUANTITIES

17.1 The quantities stated in a schedule of items for which unit prices are asked to be Bid are approximate only.

17.2 The quantities are given as a basis for the comparison of Bids.

17.3 The City does not, expressly or by implication, represent that the actual amount of Work will correspond with quantities given and reserves the right to increase or decrease the quantities of Work for any Bid item, or to omit portions of the Work, as the City may deem necessary or advisable.

ARTICLE 18 — SUBSTITUTION OF ALTERNATIVE MATERIALS, ARTICLES, OR EQUIPMENT

18.1 Bids must be based upon use of items named in the Contract Documents.

18.2 By so indicating, the Bidder warrants that equipment manufactured and/or supplied by the named manufacturer will be provided on the Project unless review of submittal information or performance under tests reveals that the equipment does not meet the Contract requirements.

18.3 Failure to indicate a manufacturer for any single item of the equipment listed in the schedule may render the Bid unresponsive to the Notice Inviting Bids and may be a basis for rejection of the Bid.

18.4 In certain cases, specific items have been named (Named Products) because of operational or maintenance considerations; approval of proposed equals should not be assumed.

18.5 Pursuant to California Public Contract Code §3400, alternative material(s), article(s), or equipment that are of equal quality and of required characteristics for the purpose intended may be proposed provided the Bidder complies with the following requirements:

A. The proposal will not be considered unless the submittal is accompanied by complete information and descriptive data necessary to determine equality of offered material(s), article(s) or equipment.

B. Samples must be submitted when requested by the City.

C. Burden of proof as to comparative quality, suitability, and performance of offered material(s), article(s), or equipment is the responsibility of the Bidder submitting the proposal.

D. Requests for approval must comply with the requirements of Section 01605, Product Requirements and Substitutions.

18.6 The City's Representative is the sole judge as to such matters. In the event the City's Representative rejects the use of such Alternative(s) submitted, then the Contractor must furnish one of the particular Named Products specified in the Contract Documents.

18.7 Proposals for Alternative material(s), process, article(s), or equipment will not be accepted during the bid period.

18.8 See Section 01605, Product Requirement and Substitutions, for additional substitution requirements.

ARTICLE 19 — LOCAL BUSINESS LICENSE

19.1 If required by City or County, the Contractor shall have a local business license for the Work contemplated before the Contract can be executed. All subcontractors will be required to secure the appropriate local business license before they commence work on the Project.

ARTICLE 20 — WORK PERCENTAGES

20.1 The Contractor shall perform at least seventy percent (70%) of the Contract Total Base Bid Amount. This portion of work shall encompass the performance of work by the Contractor's forces and equipment, the procurement of materials and equipment by the Contractor and field related general conditions required to support and supervise the construction effort. Subcontractors shall not be responsible for the performance of any work or procurement of materials or equipment within the above Contractor's work percentage allotment. Materials purchased by the Contractor but installed by a subcontractor will not contribute to the above Contractor's work percentage allotment.

20.2 The value of the work subcontracted shall be determined by summing all of the percentages identified for the subcontractors listed in Section 00430, Designation of Subcontractors. If the sum of such percentages exceeds thirty percent (30%) the City may treat the Bid as nonresponsive and reject it on that basis.

20.3 By submitting a Bid, the Bidder is certifying that it is in compliance with this obligation. This self-performance requirement is a material term of these Contract Documents and shall be subject to verification upon request. If it is determined that the Bidder's certification was other than true in all respects, the Bidder agrees that the following shall occur:

A. if the Contract has not been awarded to the Bidder, the Bidder's Bid shall be deemed non-responsive; or

B. if the Contract has been awarded, at the discretion of the City, Contractor shall be subject to either:

1. A reduction of its Total Original Contract Price by ten (10) percent of the value of the amount by which the certification was in error (e.g., if the Total Bid Price is $10,000,000 and the amount of self-performed work is determined to be $3,000,000 instead of at least $4,000,000, then the amount of the shortfall ($1,000,000) shall be multiplied by 10% to yield the sum of $100,000 to be reduced from the contract price); or

2. Termination of the Contractor's right to proceed for default.

ARTICLE 21 — DESIGNATION OF SUBCONTRACTORS

21.1 In accordance with California Public Contracting Code Section 4100, et. seq., "Subletting and Subcontracting Fair Practices Act," each general Bid shall have listed in Section 00430, Designation of Subcontractors, the name, location of the place of business and the portion of work to be performed by each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the work or improvement, or of any subcontractor licensed by the State of California who, under subcontract to the Bidder, will specially fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of the Bidder's Total Bid Price. If required by City or County, the Contractor shall have a local business license for the Work contemplated before the Contract can be executed. All subcontractors will be required to secure the appropriate local business license before they commence work on the Project.

21.2 If no subcontractor is specified for a portion of the work, or if more than one subcontractor is specified for the same portion of Work, to be performed under the Contract in excess of one-half of one percent (1/2%) of the Bidder's Total Bid Price, then the Bidder shall be deemed to have agreed that it is fully qualified to perform that Work and that it shall perform that portion itself.

21.3 Failure to comply with the provisions of the California "Subletting and Subcontracting Fair Practices Act" shall make the Contractor subject to the sanctions as set forth in the Act.

21.4 The Bidder's listed subcontractors in Section 00430, Designation of Subcontractors, must be registered with the State of California, Department of Industrial Relations (DIR) accordance with California Labor Code section 1725.5. Bidders shall list all applicable DIR registration numbers contact information on Section 00430, Designation of Subcontractors.

21.5 Bidders' attention is directed to the provisions of the Subletting and Subcontracting Fair Practices Act, beginning with California Public Contract Code Section 4100, related to penalties for use of unauthorized Subcontractors or by making unauthorized substitutions.

21.6 Alternate subcontractors shall not be listed for the same work.

ARTICLE 22 — CONTRACTS TO BE ASSIGNED (NOT USED)

ARTICLE 23 — MANUFACTURER CERTIFICATION AND APPROVAL OF CONTRACTOR (NOT USED)

ARTICLE 24 — DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

24.1 In accordance with the provisions of the California Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to section 1777.1 or section 1777.7 of the Labor Code. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor used on the Work.

ARTICLE 25 — IRAN CONTRACTING ACT CERTIFICATION (NOT USED)

ARTICLE 26 — SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES

26.1 Contractor and its subcontractors performing work under this Contract will be required to pay California sales tax and other applicable taxes, and to pay for permits, licenses and fees required by the agencies with authority in the jurisdiction in which the work will be located, unless otherwise expressly provided by the Contract Documents. Bidders shall include all applicable taxes and fees that are in effect or reasonably anticipated on the bid date in their bid price.

ARTICLE 27 — SHEETING, SHORING AND BRACING (NOT USED)

ARTICLE 28 — OFFER OF ASSIGNMENT OF ANTITRUST ACTIONS

28.1 As provided by Public Contract Code Section 7103.5, in submitting a Bid to the City, the Bidder offers and agrees that if the Bid is accepted, it does assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the Bidder for sale to the City pursuant to the Bid. Such assignment shall be made and become effective at the time the City tenders final payment to the Bidder.

ARTICLE 29 — BIDDERS INTERESTED IN MORE THAN ONE BID

29.1 No person, firm, or corporation, under the same or different name, shall make, file, or be interested in more than one Bid for the same work unless alternate Bids are called for. A person, firm, or corporation may, however, submit sub-proposals or quote prices on materials to more than one Bidder.

29.2 Pursuant to California Public Contract Code Section 7106, Bidders shall execute and furnish with their Bids Section 00440, Non-Collusion Declaration. Reasonable grounds to believe that any individual, partnership, corporation, or combination is interested in more than one Bid for the proposed Work may cause rejection of all Bids in which that individual, partnership, corporation, or combination is interested.

ARTICLE 30 — RETURN OF BIDDER'S SECURITY

30.1 The Bid guarantees of the three lowest Bidders will be retained until the Agreement is signed, evidence of insurance provided, and satisfactory bonds furnished, or other disposition made thereof.

30.2 The Bid guarantees of all Bidders except the three lowest, responsive Bids will be returned within twenty-one (21) calendar days after the Bids are opened.

30.3 If all Bids are rejected and no award is made, all Bid guarantees will be returned within ten (10) calendar days of the decision by the City not to award the Contract, and in any event not later than seventy (70) calendar days after the Bids are opened.

ARTICLE 31 — RELIEF OF BIDDERS

31.1 Attention is directed to the provisions of California Public Contract Code Sections 5100 through 5107 that set forth the criteria and procedures for relief of Bidders, and for authorizing Contract Award to another Bidder.

ARTICLE 32 — AWARD OF CONTRACT

32.1 After the Bids have been opened and read, they will be checked for accuracy and compliance with the Contract Documents. If a Contract is awarded, it will be to the lowest responsible, Bidder submitting a responsive Bid. All Bids will be compared on the basis of the Engineer's estimate of the quantities of work to be done. The City reserves the right to reject an unbalanced Bid which is a Bid having nominal or artificially reduced prices for some bid items and enhanced prices for other bid items.

32.2 In the event that an identical Total Lowest Monetary Bid Price, as determined by the City, is received from two or more responsive and responsible Bidders, the City may re-advertise for Bids, or the successful Bidder may be determined by the casting of lots with the tie Bidders in public at a date and time set by City.

32.3 In the evaluation of any Bid, the City shall have the right to consider information provided by sources other than Bidder.

32.4 The criteria which will be used to determine the lowest responsible Bidder submitting a responsive Bid are as follows:

A. Responsive Bid: Means a Bid which conforms in all material respects to the Contract Documents.

B. Responsible Bidder: Means a Bidder who has the qualifications, fitness, capacity and experience in all respects to perform fully the requirements under the Contract Documents and who has the integrity and reliability to assure good faith performance, including:

1. Financial, material, equipment, facility, and personnel resources and expertise necessary to meet contractual requirements.
2. A record of integrity.
3. A record of Successful Project Completions defined as:
    a. Completion of project on time and without liquidated damages.
    b. Completion of project without excessive defective work issues.
    c. Completion of project without excess or meritless claims or disputes issues.
4. Qualified legally to contract with the City, and;
5. Has not failed to supply any necessary information in connection with the inquiry concerning responsibility.

32.5 No Bidder may withdraw its Bid for the period of Days stated in Section 00400, Bid Form, after the date set for the opening thereof, and the Bid will be subject to acceptance by the City throughout this period.

32.6 The Contract, if awarded, will be to that responsible Bidder submitting the lowest responsive Total Base Bid Price as stated in Section 00400, Bid Form, subject to City's right to reject any or all Bids and to waive any informality or irregularity in the Bids or in the bidding procedures.

32.7 The time period within which Award of Contract may be made is subject to an extension of such further period as may be agreed upon in writing between the City and the Bidder.

32.8 Only one Contract will be awarded.

32.9 Bids are required for the “Base Bid Schedule” and Add-Alternate Bid Schedule. Award will be based on the lowest responsible and responsive bid for the “Base Bid Schedule”. The City may exclude items listed on the Add-Alternate Bid Schedule, from the Contract, at the City’s Discretion

32.10 After Contract award, no Contract is formed until all Contract Bonds and Insurance documents have been accepted by the City and the Agreement is signed by the City; the Contractor submits the signed Contractor’s Certification regarding Worker’s Compensation; and the Agreement is signed by the City.

ARTICLE 33 — CONTRACT BONDS

33.1 The successful Bidder (hereinafter "Contractor") must pay all Contract Bond premiums, costs thereof, and incidental thereto.

33.2 Each Contract Bond must be signed by both Contractor and the Sureties.

33.3 As a condition to the City signing the Agreement, the successful Bidder must file with City on the bond forms furnished by the City, the two surety bonds in the amounts and for the purposes noted below, duly executed by a Surety company meeting the requirements of Article 21 herein.

33.4 The Payment Bond must be in an amount of one hundred percent (100%) of the Contract Sum as determined from the prices in the Bid Form, including the base Bid and all additive and/or deductive Bid items accepted by the City and identified in the Award, and shall inure to the benefit of persons performing labor or furnishing materials in connection with the Work. This bond must be maintained in full force and effect until all Work is completed and accepted by City, and until all claims for materials and labor have been paid.

33.5 The Performance Bond must be in an amount of one hundred percent (100%) of the Contract Sum as determined from the prices in the Bid Form, including the base Bid and all additive and/or deductive Bid items accepted by the City and identified in the Award, and must be so conditioned as to ensure the faithful performance by Contractor of all Work. It shall also include the replacing, or making acceptable, of any defective materials or faulty workmanship during the Guarantee period(s).

33.6 If any Surety or Sureties are deemed unsatisfactory at any time by City, City will notify Contractor, and Contractor must forthwith substitute a new Surety or Sureties satisfactory to City. No further payment will be deemed due or made until the replacement Sureties qualify and are accepted by City.

33.7 All changes to the Contract Sum, Contract Time, or Contract Documents may be made without securing the consent of the Surety or Sureties on the Contract Bonds.

33.8 Sureties must be California admitted Sureties.

ARTICLE 34 — INSURANCE

34.1 Contractor will be required to furnish to City, concurrently with execution of the Agreement, insurance documents evidencing coverage as required by Section 00700- Article 13, Insurance and Indemnification.

ARTICLE 35 — EXECUTION OF CONTRACT AGREEMENT

35.1 The form of Agreement which the successful Bidder, as Contractor, must execute, and the form of Contract Bonds and Insurance coverage that it must provide are included in the Bid Documents and must be carefully examined by each Bidder. All Contract Bonds, policies or certificates of insurance, and Insurance policy endorsements must be delivered with or before the delivery of the signed Agreement form and must be acceptable to City.

35.2 The Bidder to whom the Contract is awarded by City must, within fifteen (15) calendar Days after Bidder's receipt of Section 00500, Notice of Award, sign and deliver the following documents to the City Clerk at City of Yuba City located at 1201 Civic Center Boulevard, Yuba City, CA 95993:

A. One (1) original and one (1) copy of the signed Agreement form furnished by City. See Section 00510, Agreement; and

B. One (1) original and two (2) copies of the Faithful Performance Bond. See Section 00540, Performance Bond"; and

C. One (1) original and two (2) copies of the Payment Bond. See Section 00550, Payment Bond Form; and

D. Policies of Insurance, Insurance certificates and endorsements as required by the Contract Documents; and

E. Worker's Compensation Certification. See Section 00560, Contractor's Worker's Compensation Certification.

35.3 Should Contractor begin Work in advance of the start date for the Work, as stated in the Notice to Proceed, the Work will be considered as having been done at Contractor's risk as a volunteer.

ARTICLE 36 — FAILURE TO EXECUTE CONTRACT AGREEMENT

36.1 Failure of the successful Bidder to execute the Agreement in the form satisfactory to City is just cause for the annulment of the Award and the forfeiture of the Bidder's Security.

36.2 Failure of the successful Bidder to sign and return the Agreement within fifteen (15) calendar Days after notification of Award by the City constitutes failure to execute the Agreement.

36.3 Failure to return required Contract Bonds and insurance documents within fifteen (15) calendar Days after notification of Award by the City constitutes failure to execute the Agreement.

36.4 The failure to execute the Agreement or to furnish the bonds or evidences of insurance required by these Instructions to Bidders within fifteen (15) calendar days after receiving written notice of the Award of the Contract constitutes default. In case of default, the City may, at its sole discretion, award the Contract to the next lowest responsive and responsible Bidder or may re-advertise the project for new Bids. If a more favorable Bid is received by re-advertising, the defaulting Bidder agrees that it shall have no claim against the City including for a refund, should a more favorable Bid be received via re-advertising.

36.5 If a Bidder to whom an award is made fails or refuses for any reason to execute the Contract or fails to furnish any or all of the required insurance or Contract Bonds in proper form, within the time stated, it is agreed and stipulated between City and the Bidder to whom any award is made that damage has been and will be sustained by the City. It is further agreed by the City and any and all Bidders that it will be impractical and extremely difficult to fully ascertain and determine the actual damage that the City will sustain by such delay and failure to provide timely or in full the required documentation and to properly and fully execute the Contract Documents. All parties who submit a Bid under the Notice Inviting Bids are hereby advised and, by submitted Bids agree, that the damages suffered by the City by such delay under these circumstances is difficult to precisely ascertain, and further are advised and agree that in the event that the provisions of this paragraph are triggered, the amount of the Bidder's bond or

check is agreed to as the liquidated damages payable by such Bidder(s). This Bidder's bond or check will be collected and held by the City as the sole property of the City for full compensation for the damages suffered by the City as a result of the Bidder's failure to timely and completely execute the Agreement and furnish the bonds and evidences of insurance as required.

ARTICLE 37 — NO ORAL AGREEMENTS

37.1 No conversation with any officer, employee, agent or Consultant of City, either before, during, or after the execution of the Agreement, affects or modifies any terms or obligations contained in the Contract Documents, nor entitle Contractor to any adjustment in the Contract Time or Contract Sum whatsoever.

ARTICLE 38 — BID PROTEST

38.1 The lack of a prompt procedure to resolve disputes regarding the bidding process would impair the City's ability to carry out its purpose of constructing this Project in a timely manner. Therefore, to the maximum extent authorized by law and notwithstanding any other procedures specified in documents referenced herein, all disputes and/or protests regarding the bidding process shall be subject to the following procedures. In submitting a Bid to the City for this Project, the Bidder agrees to comply with and to be bound by the following Bid protest procedures

38.2 Pre-Bid

A. If any potential Bidder believes that any part of the form or content of the Contract Documents, including, without limitation, the Bidder experience and qualification requirements, is vague, ambiguous, gives an unfair advantage or unfairly limits competition, such Bidder must give notice and protest on such grounds to the City Representative as soon as practical, but in no event later than ten (10) working days before the original noticed date for receiving Bids. The City shall, within five (5) working days upon receiving any such protest(s), review the same and publish a written response thereto.

B. Any pre-bid protest shall include:

1. The protest document shall contain a complete and detailed statement of the factual and/or legal basis for the protest and, with respect to any authority relied upon, a copy of said authorities shall be provided.

2. The protest shall identify the specific portion(s) of the Bidding or Contract Documents that form the basis for the protest.

3. The protest shall include the name, address, telephone number, fax number and email address of the protestant, and if applicable, the person representing the protesting party.

C. The procedure and time limits set forth in these Bid protest procedures are mandatory and are the Bidder's sole and exclusive remedy in the event of a pre-bid protest related to the form or content of the Contract Documents. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the protest, including, without limitation, filing a Bid or award protest on the grounds applicable to a pre-bid protest, filing a Government Code claim or filing legal proceedings.

38.3 Bid or Award Protest

A. Any protest relating to any particular Bid opened by the City, or the award of the Contract must be submitted in writing to the City Representative before 5:00 p.m. on the Fifth (5th) working day after the City has received and opened Bids.

B. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation. The protest must state the facts and refer to the specific portion(s) of the document that forms the basis for the protest.

C. The party filing the protest must have actually submitted a Bid for the Work. A subcontractor of a party submitting a Bid for the Work may not submit a Bid protest. A party may not rely on the Bid protest submitted by another Bidder but must timely pursue its own protest.

D. The protest must include the name, address, telephone number, fax number and email address of the person representing the protesting party.

E. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest, and delivery to all such parties must be in a manner to ensure their receipt on the same day the protest is filed.

F. The City will give the protested Bidder five (5) working days from the date the protest is filed and served to submit a written response. The responding Bidder shall transmit the response to the protesting Bidder concurrent with delivery to the City.

G. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of a Bid or award protest. The Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid or award protest, including filing a Government Code Claim or legal proceedings.

H. The City will review all timely protests prior to award of the Contract. The City will issue a prompt decision on the protest. The City will not be required to hold an administrative hearing to consider any protests but may do so at its option. At the time of the City Board’s consideration of the Project Contract award, the City Council will also consider the merits of any timely protests in its determination of the lowest responsible responsive Bidder. Nothing in these procedures for protesting a particular Bid or award of the Contract will be construed as a waiver of the City’s right to reject all Bids.

ARTICLE 39 — ESCROW BID DOCUMENTS (NOT USED)

END OF SECTION

SECTION 00300

SUPPLEMENTAL PROJECT INFORMATION AVAILABLE TO BIDDERS

ARTICLE 1 — PURPOSE OF SUPPLEMENTAL PROJECT INFORMATION

1.01 GENERAL

A. The information referenced in this Section 00300 is available as Appendices to the Contract.

B. The information is furnished as reference material and is not part of the Contract Documents.

C. The information is to be used by Bidders “For Information Only”.

1.02 CITY’S DISCLAIMER

A. The City assumes no responsibility for completeness or accuracy of survey investigations, records compiled therefrom, or interpretation(s) contained in the subsequent report(s).

B. Survey investigations were performed for purposes of study and design, and there is no expressed or implied warranty that conditions indicated in the report(s) are representative of those existing throughout the Project, structures, or site.

C. Conditions differing substantially from those indicated in the information referenced in Section 00300, Supplemental Project Information Available to Bidders, may be encountered.

ARTICLE 2 — SUPPLEMENTAL PROJECT INFORMATION AVAILABLE TO BIDDERS

2.01 SUBSURFACE CONDITIONS

A. A subsurface investigation has been conducted at the site of the Work. The subsurface investigation and report were developed for planning and design purposes only, and as such may not include necessary information for, any or all, construction related activities including, but not limited to, drilling sampling construction and development. The Contractor may not make claims against City or any of City’s Consultants with respect to the completeness of this investigation and report for Contractor’s purposes with respect to the means, methods, techniques, sequences and procedures employed by Contractor, and safety precautions and programs incident thereto.

B. The resulting report with the records of borings made at the work site is entitled:

1. GOVERNS D U.S. Seismic Design Maps at the Yuba City Water Treatment Plant

C. It is expressly understood and agreed by Bidder or Contractor that neither the City nor the Engineer assume any responsibility whatsoever with respect to the sufficiency or accuracy of the investigations thus made, the records thereof, or of the interpretation set forth therein or made by the Engineer in their use thereof and there is no representation, warranty or guarantee, either express or implied, that the conditions indicated by such investigations or records thereof are correct or representative of those existing throughout such areas or any part thereof, or that unanticipated developments may not occur or that materials other than, or in proportions different from, those indicated may not be encountered.

D. When a log of test borings showing a record of the data obtained by the Engineer’s investigation of the subsurface conditions is made available to the Bidders and Contractor, it is expressly understood and agreed by Bidders and Contractor that said log of test borings does not constitute a part of the Contract, represents only the opinion of the Engineer as to the character of the materials encountered in the test borings, is made available only for the convenience of Bidders and its use is subject to all of the conditions and limitations set forth in this Document. Water levels that may be shown on a log of test

borings are valid only for the stated date of observation. The water level may change from season to season and from year to year.

E. The City disclaims responsibility for the Bidder's or Contractor’s interpretation of data, such as, projecting or extrapolating from the test holes to other locations on the site of the Work, soil bearing values and profiles, and soil stability, as well as the presence, level, and extent of underground water for subsurface conditions during construction operations.

END OF SECTION

SECTION 00400

BID FORM

CITY OF YUBA CITY
SUTTER COUNTY, CALIFORNIA

Project Title: Septage Hauling and Receiving Station

Project No. 25-04

THIS BID IS SUBMITTED BY:

Name of Bidder: _____

SUBMIT BID TO:

City Clerk
City of Yuba City,
1201 Civic Center Boulevard
Yuba City, California, 95993

BID OPENING:

City Clerk's Office
City of Yuba City,
1201 Civic Center Boulevard
Yuba City, California, 95993

TO: Public Works Department

BID IS SUBMITTED ON: _____, 2026 (Month/Day)

IMPORTANT NOTE:

All prices and bids must be in ink or typewritten. No pencil figures or erasures are permitted. Mistakes may be crossed out and corrections inserted adjacent thereto and must be initialed in ink by the person submitting the Bid. Changes in or additions to the Bid Form, recapitulations of the work bid upon, alternative bids, or any other modifications of the Bid Form which are not specifically called for in the Bid Form, will result in rejection of the bid by the City. The City will treat all such bids as not being responsive to the Invitation for Bids. The City will not consider any oral or telephonic or email modification of any bid submitted.

Proposed prices shall be for the total net price including all applicable taxes and charges (unless otherwise specified), delivered F.O.B., Project site. Information must be furnished complete in compliance with the Contract Documents. The information requested and the manner of submission are essential to permit prompt evaluation of all Bids on a fair and uniform basis. Accordingly, the City reserves the right to declare as non-responsive and reject any Bid in which material information requested is not furnished or where indirect or incomplete answers or information is provided.

I BIDDER REPRESENTATIONS

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with City in the form included in the Contract Documents to perform all Work as specified or indicated in the Contract Documents within the specified time and for the price indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

The undersigned Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation, those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for sixty (60) days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of City.

As provided by Section 4552, et. Seq., of the California Government Code, in submitting a Bid to the City, the Bidder offers and agrees that if the Bid is accepted, it will assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.SC. Section 15) or under the Cartwright Act (Chapter 2 (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the Bidder for sale to the City pursuant to the bid. Such assignment shall be made and become effective at the time the City tenders final payment to the Bidder.

In submitting this Bid, the undersigned Bidder represents that:

Bidder has visited the site and become familiar with and satisfied itself as to the general, local, and site conditions that may affect cost, progress, and performance of the Work.

Bidder is familiar with and has satisfied itself as to all federal, state, and local laws and Regulations and Permits that may affect cost, progress, and performance of the Work.

Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site which have been identified in the Contract Documents.

Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents to be employed by Bidder, and safety precautions and programs incident thereto.

Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Contract Documents.

Bidder is aware of the general nature of work to be performed by City and others at the Site that relates to the Work as indicated in the Contract Documents.

Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

As to the nature and scope of the Work, Bidder has given the City written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Contract Documents, and the written resolution thereof by the City, if made, is acceptable to Bidder, and where said conflicts, etc., have not been resolved through the interpretations or clarifications by the City because of insufficient time or otherwise,

Bidder has included in the Bid the greater quantity or better quality of Work, or compliance with the more stringent requirement resulting in a greater cost.

The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

II ADDENDA

Bidder has purchased a complete set of Contract Documents and carefully examined and studied the Contract Documents, all related information available to Bidders as defined in the Contract Documents, and the following Addenda, receipt of all of which is hereby acknowledged. A Bid may be deemed non-responsive if all Addenda issued by Owner are not listed.

Addendum Number	Addendum Date	Signature of Bidder

III BID SCHEDULE

Pursuant to your published Invitation for Bids for the above-referenced project, and in accordance with the approved Plans and Specifications for that project, the following Bid for said entire project is submitted by the firm indicated on this Bid Form.

The undersigned Bidder proposes and agrees to contract with the City to perform all of the above work, including subsidiary obligations as defined in the Contract Documents for the prices indicated in the BID SCHEDULE below.

Pursuant to the provisions of the California Labor Code Section 6707, each bid submitted shall contain, in the bid, the amount included for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life and limb in trenches and open excavation, which shall conform to applicable safety orders. By listing this sum in base bid item 2 below, the Bidder warrants that its action does not convey tort liability to the Owner, the Engineer, the Construction Manager, and other employees, agents, and subconsultants.

Further in submitting its Bid, the undersigned Bidder understands and agrees that that the Total Bid Price are each determined by the sum total of all respective bid item amounts in the applicable Bid Schedule shown below. In the event the addition of the bid item extended amounts does not equal the Total Bid Price the corrected addition of all bid item extended amounts will govern, and the Owner will correct the respective total(s) accordingly. In case of discrepancy between words and figures, words will prevail.

The City reserves the right to reject an unbalanced Bid which is a Bid having nominal or artificially reduced prices for some bid items and enhanced prices for other bid items.

Bid Items are further described in PART 2 of the Technical Specifications

BID SCHEDULE

Bid Items					
Item	Description	Quantity	Unit	Unit cost, dollars	Total bid item price, dollars
1	Bonds and Insurance	Lump Sum			
2	Mobilization. (maximum of 2%)	Lump Sum			
3	Preparation and approval of all Project Submittals.	Lump Sum			
4	Temporary Facilities, Fences and Protection of the Work	Lump Sum			
5	SWPP Permit and Erosion Control	Lump Sum			
6	All Traffic Control and Preparation and Approval of Traffic Control Plan.	Lump Sum			
7	All Preliminary Site Work, Clearing, Grubbing, Potholing and Off-Haul of Material.	Lump Sum			
8	General Excavation, Removal and Disposal of Soil, and Placement and Compaction of Native and Required Import Material at Septage Structure.	Lump Sum			
9	General Excavation, Removal and Disposal of Soil, and Placement and Compaction of Native and Required Import Material for All New Pipe Trenches, Including in Burns Drive.	Lump Sum			
10	Placement of Base Rock Under Roadways	Lump Sum			
11	Placement of Base Rock Under Concrete Structures	Lump Sum			
12	Asphalt Paving, Patching, and Repair in Burns Drive	Lump Sum			
13	Asphalt Paving at New Septage Road Extension.	Lump Sum			
14	Concrete Repair in Burns Drive and Other Miscellaneous Concrete Repair Work.	Lump Sum			
15	Installation of Concrete at Septage Structure, Slab, and Trench Drains.	Lump Sum			
16					

Alt - BID SCHEDULE

Bid Items					
Item	Description	Quantity	Unit	Unit cost, dollars	Total bid item price, dollars
1	Bid Alternate NO. 1. Additional Base Rock and Asphalt Paving at New Septage Road Extension as Indicated on the Drawings.	Lump Sum			

TOTAL BID PRICE (Items 1 through 15) $_____

TOTAL ALT-BID PRICE (Item 1) $_____

TOTAL BID PRICE (in words) _____

_____

Bid prices shall include everything necessary for the completion of the work stipulated in the Contract Documents, including but not limited to providing the materials, equipment, tools, plant and other facilities, and the management, superintendence, labor and services. Bid prices shall include all federal, state and local taxes.

The lowest bid will be based on the Total Bid Price. Bid prices shall include everything necessary for the completion of the work stipulated in the Contract Documents, including but not limited to providing the materials, equipment, tools, plant and other facilities, and the management, superintendence, labor and services. Bid prices shall include all federal, state and local taxes.

IV COMPLETION

In accordance with the Specifications, the undersigned Bidder agrees to plan the Work and to prosecute it with such diligence that said Work shall be commenced within ten (10) days after the date of Notice to Proceed and shall be completed within the contract completion times specified in the Agreement. Furthermore, the undersigned Bidder accepts the liquidated damages specified in the Agreement in the event of failure to complete the Work within the specified times.

V BID GUARANTY

Bid security must be a Bidders Bond, a certified check or cashier's check payable to the City of Yuba City, or cash. Bids secured by personal checks or personal guarantees will be rejected. Bid security must be in an amount not less than ten percent (10%) of the Total Bid Price.

VI NON-COLLUSION DECLARATION

The Bidder swears, deposes and says that he, she or it, as the party making the foregoing Bid, that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham Bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham Bid or to refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the bid price, or that of any other Bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the Bid are true; and, further, that the Bidder has not, directly or indirectly submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative

thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agency thereof to effectuate a collusive or sham Bid.

Any person executing this affidavit on behalf of the Bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to executed, and does execute, this affidavit on behalf of the Bidder.

VII SUBCONTRACTOR LISTING

In accordance with the California Public Contract Code, Division 2, Part 1, Chapter 4, Section 4100 *et seq.*, and following, the subcontractors listed on the Bid Form attachment will perform the indicated work of improvement on the project.

VIII ATTACHED DOCUMENTS

The undersigned Bidder agrees that the following Contract Documents are attached to and made a condition of this bid:

1. Bid Form (Section 00400)
2. Bidder's Bond (Section 00410)
3. Site Visit Affidavit (Section 00420)
4. Designation of Subcontractors (Section 00430)
5. Schedule of Major Equipment and Material Suppliers (Section 00435)
6. Non-Collusion Declaration (Section 00440)
7. Debarment Certification (Section 00445)
8. Certification of Drug Free Workplace (Section 00450)
9. Iran Contracting Act Certification (Section 00460)
10. Certification of Bidder's Experience and Qualifications (Section 00480)
11. Statement of Safety Compliance (Section 00490)
12. Bidder's Signature Authority (see Section 00200- Item 11.3.C)

IX BIDDER'S CALIFORNIA CONTRACTOR'S LICENSE INFORMATION

The undersigned Bidder is licensed in accordance with Chapter 9, Division 3 of California Business and Professions Code and Section 3300 of the California Public Contract Code, and the laws of the State of California.

Bidder's Valid California Contractor's License No. _____

Classification(s) _____

Expiration Date: _____

Bidder has contracted under this license number for _____ Years

X BIDDER'S CALIFORNIA PUBLIC WORKS PROJECT REGISTRATION INFORMATION

The undersigned Bidder is registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

Bidder's Valid Public Works Registration No. _____

Registration Date: _____

Expiration Date: _____

The undersigned hereby swears and certifies under the penalty of perjury that all representations made herein are true.

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

Business Address: _____

Phone Number: ( ) _____ FAX Number: ( ) _____

Email Address of Authorized Representative: _____

A Partnership

Partnership Name (typed or printed): _____

By: _____
(Signature of general partner- attach evidence of authority to sign)

Name (typed or printed): _____

Business Address: _____

Phone Number: ( ) _____ FAX Number: ( ) _____

Email Address of Authorized Representative: _____

A Corporation

Corporation Name (typed or printed): _____

State of Incorporation: _____

By: _____ (SEAL)
(Signature - attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Name (typed or printed): _____

Date of Qualification to do business is _____

Business Address: _____

Phone Number: ( ) _____ FAX Number: ( ) _____

Email Address of Authorized Representative: _____

A Joint Venture

Joint Venture Name (typed or printed): _____

By: _____
(Signature of Joint Venture Partner - attach evidence of authority to sign)

Name (typed or printed): _____

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone Number: ( ) _____ FAX Number: ( ) _____

Email Address of Authorized Representative: _____

Joint Venture Name (typed or printed): _____

By: _____
(Signature of Joint Venture Partner - attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone Number: ( ) _____ FAX Number: ( ) _____

Email Address of Authorized Representative: _____

Each joint venturer must sign. Add additional Joint Venture names and information below if needed. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.

A Limited Liability Company

Limited Liability Company Name (typed or printed): _____

By: _____
(Signature of Managing Partner or Officer -
attach evidence of authority to bind the LLC under the LLC's articles of organization)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone Number: ( ) _____ FAX Number: ( ) _____

Email Address of Authorized Representative: _____

AUTHORITY CERTIFICATES. Shall be attached to the bid form and submitted with the bid.

A. Bids by corporations must be executed in the corporate name by the president, a vice-president, or other corporate officer. Such Bid shall be accompanied by the enclosed Certificate of Authority to sign, attested by the secretary or assistant secretary. The corporate address and state of incorporation must appear below the signature.

B. Bids by partnerships must be executed in the partnership name and be signed by a managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the partnership must appear below the signature.

C. Bids by Limited Liability Companies (LLC) must be executed by an authorized officer or managing member. Such Bid shall be accompanied by the enclosed Certificate of Authority to sign, attested by the secretary or assistant secretary or a quorum of other LLC members. The LLC address and the state where LLC was formed must appear below the signature.

D. Bids by joint venture must be executed in the joint venture name and be signed by a joint venture managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the joint venture must appear below the signature. Additionally, the Bid shall bind the joint venture.

E. If the Bid is made by an individual, bidder's name, signature, and post office address must be shown.

END OF SECTION

CITY OF YUBA CITY
DEPARTMENT OF PUBLIC WORKS

BIDDER'S BOND

SEPTAGE HAULING AND RECEIVING STATION
CONTRACT NO. 25-04

We, _____, as Principal, and _____, as Surety, are bound unto the City of Yuba City, Department of Public Works, hereafter referred to as "Obligee," in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the Obligee for the work described below, for the payment of which sum we bind ourselves jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal is submitting a bid to the Obligee for **SEPTAGE HAULING AND RECEIVING STATION** for which bids are to be opened at Yuba City, California, on _____.

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and manner required under the Notice to Contractors, Special Provisions, Proposals, and Contract for this work, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in accordance with the bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials is provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by Obligee in such suit, including a reasonable attorney's fee to be fixed by the court.

Dated: _____, 2026

_____

By: _____

_____

By: _____

THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL.

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SECTION 00420

SITE VISIT AFFIDAVIT

(To Be Submitted with Bid)

Project Name: Septage Hauling and Receiving Station Project

State of California

County of _Sutter_

_____, **being first duly sworn,** deposes
(Contractor's Authorized Representative)

he or she is

_____ of _____ _____ , the party making the bid,
(Title of Representative) (Contractor's Name)

has visited the Site of the Work as described in the Contract Documents and has examined and familiarized themselves with the existing conditions, as well as all other conditions relating to the construction which will be performed. The submitting of a bid shall be considered an acknowledgement on the part of the Bidder of familiarity with conditions at the site of Work. The Bidder further acknowledges that the site examination has provided adequate and sufficient information related to existing conditions which may affect cost, progress or performance of the Work.

Signed this _____ day of _____, 20____

_____
Bidder's Name

_____ _____
Authorized Signature Date

_____
Title of Signator

END OF SECTION

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SECTION 00430

DESIGNATION OF SUBCONTRACTORS

(To Be Submitted with Bid)

Project Title: **Septage Hauling and Receiving Station**
Project No. **25-04**

In compliance with the Subletting and Subcontracting Fair Practices Act of the Public Contract Code of the State of California, sections 4100 et seq., each bidder shall set forth below: (a) the name and the location of the place of business, (b) the California State Licensing Board contractor license number, (c) the Department of Industrial Relations public works contractor registration number, and (d) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's Total Bid Price. Notwithstanding the foregoing, if the work involves the construction of streets and highways, including bridges, then the Contractor shall list each subcontractor who will perform work or labor or render service to Contractor in or about the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's total Bid Price or $10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If no subcontractor is specified, for a portion of the work, or if more than one subcontractor is specified for the same portion of Work, then the Contractor shall be deemed to have agreed that it is fully qualified to perform that Work, and that it shall perform that portion itself.

The Bidder's attention is directed to the provisions found in Section 00200-Article 20, WORK PERCENTAGES, which stipulates the percent of the Work to be performed with the Bidder's own forces.

Work to be done by Subcontractor	Percent of Total Bid Price	Name of Subcontractor	Address of Business	CSLB Contractor License Number	DIR Registration Number

Name of Bidder: _____

Work to be done by Subcontractor	Percent of Total Bid Price	Name of Subcontractor	Address of Business	CSLB Contractor License Number	DIR Registration Number

Name of Bidder _____

Signature _____

Print Name and Title _____

Dated _____

(USE ADDITIONAL SHEETS IF NECESSARY)

END OF SECTION

SECTION 00435

SCHEDULE OF MAJOR EQUIPMENT AND MATERIAL SUPPLIERS
(To Be Submitted with Bid)

1. The undersigned Bidder represents that, if awarded the Contract, the items of major equipment and materials specified below will be supplied by the manufacturers or suppliers specified below. By so indicating, Bidder warrants that the equipment and materials manufactured and/or supplied by the named manufacturer or supplier will be provided on the Project unless review of submittal information or performance tests reveal that the equipment or material does not meet Contract requirements or the manufacturer or supplier is unable to meet the delivery requirements necessary to maintain progress of the Project based upon the accepted baseline construction schedule. Failure to indicate a manufacturer or supplier listed in the following schedule may render the Bid non-responsive and may be the basis for rejection of the Bid.

2. All major Equipment shall be bid according to the following:

   (a) The following Major Equipment Schedule Table designates major equipment items to be provided. All costs for providing these equipment items shall be included in the Lump Sum Bid. The Bidder shall indicate which Manufacturer/Supplier of equipment be proposes to provide, by checking ONE of the named, listed items and, if the Bidder desires to propose an "or equal" equipment item, by writing in a proposed "or equal." If the Bidder writes in a proposed "or equal," he shall also check one of the named, listed items. It is the Bidder's responsibility that all equipment to be provided, either checked or proposed "or equal" write-in, meet the requirements of the Specifications.

   (b) The opinion of the Engineer will be the final determination of whether a write-in “or-equal” meets the design intent. In the event that the Engineer allows the Bidder's proposed "or equal" material or equipment item for use as an "or equal”, the proposed "or equal" material or equipment item shall be provided for the amount included in the Lump Sum Bid with NO change in Contract price. Should the write-in proposed "or equal" item be determined "not equal" by the Engineer, then the Bidder hereby agrees to provide the checked Manufacturer/Supplier item for the amount included in his Lump Sum Bid. Should a Bidder fail to indicate which named manufacturer or supplier his Lump Sum Bid is based on, or checks more than one named Manufacturer/Supplier per listed equipment item, the Bidder hereby agrees to provide the Manufacturer/Supplier item noted as "A" for the amount included in his Lump Sum Bid with NO change in Contract Price.

   (c) Allowances of proposed "or equal" equipment does not constitute a waiver of the Specifications. Proposed "or equal" equipment is defined as equipment proposed and named by the Bidder under the Manufacturer/Supplier column in the Major Equipment Schedule Table as equal and equivalent to the specified equipment.

   (d) Proposed "or equal" equipment will only be considered after award and execution of contract. For each "or equal" (write-in) equipment item, Contractor shall submit a properly completed, MATERIAL / PRODUCT SUBSTITUTION REQUEST FORM, (See Section 01605, Project Requirements and Substitutions), within thirty-five (35) calendar days after the date of the Notice to Proceed. Proposed “Or Equal” Substitution Form must be completely filled out, certified and include all required supporting documentation to allow Engineer to assess the "or equal" acceptability of the product or system. Failure to submit all the required information within the established time limit shall be grounds for determination that the proposed "or equal" major equipment item is "not equal" to the named, listed Manufacturer/Supplier equipment item.

   (e) Within thirty (30) calendar days after receiving the proposed "or equal" major equipment submittals, the Engineer will notify Contractor, in writing, as to whether or not the submitted proposed "or equal" equipment, if any, are accepted as meeting the general specification requirements. The consideration of this equipment shall not be construed to indicate final acceptance by the City, nor relieve the

Contractor and/or Manufacturer/Supplier of the equipment from providing the post-Contract award submittal information.

(f) To be deemed equal, the proposed "or equal" equipment shall be the same or better than the specified named product with respect to features, materials of construction, function, performance, reliability, quality, general dimensional configuration, operations and maintenance access and costs, and static and dynamic loads. Determination of equality in reference to the project design requirements will be made by the Engineer.

(g) No proposed "or equal" major equipment will be considered unless, in the opinion of the Engineer, it conforms to the Contract Drawings and Specifications in all respects, except for make and manufacturer and minor details.

(h) Design of this project is based upon the Manufacturer/Supplier equipment item noted as the "A" item in the Major Equipment Schedule Table. When a "B," "C," or "D" named item is named in the Major Equipment Schedule Table, the equipment or product of this "B," "C," or "D" named manufacturer or supplier is deemed "or equal" in quality; however, should a Bidder propose providing a "B," "C," or "D" named item, or proposed "or equal" (write-in) equipment, he shall comply with the following:

1) If the Bidder proposes "or equal" (write-in) equipment or equipment other than an "A" named manufacturer, he shall include in the Lump Sum Bid all additional costs (including all general construction, process mechanical, HVAC, plumbing, electrical, and instrumentation and control work), required to accommodate, furnish, and install the proposed equipment or material, training, and spare parts.

(2) Contractor shall reimburse the City for Engineer's time and expense charges associated with the review of proposed "or equal" Major Equipment or System submittals, subsequent notification to Contractor of disposition, and any associated modifications to the Drawings.

MAJOR EQUIPMENT OR SYSTEM SCHEDULE
SUPPLIED BY CONSTRUCTION CONTRACTOR

Section	Equipment or System	Name of equipment or System Selected Indicate with a check mark within the ( )
N/A		

Name of Bidder: _____

Signature of Bidder: _____

Name and Title of Person Signing: _____

Date: _____

END OF SECTION

SECTION 00440

NON-COLLUSION DECLARATION

Project Title: Septage Hauling and Receiving Station

Project No. 25-04

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____[date], at _____[city], _____[state].

_____
(Signature)

_____
(Print Name)

_____
(Print Title)

_____
(Date)

Public Contract Code Section 7106
Code of Civil Procedure Section 2015.5

END OF SECTION

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SECTION 00445

DEBARMENT CERTIFICATION
(To Be Submitted with Bid)

Project Title: Septage Hauling and Receiving Station

Project No. 25-04

By submitting its bid the bidder certifies in accordance with California Public Contract Code Section 6109 that neither the bidder nor any subcontractor included on the list of proposed subcontractors submitted with the bid is ineligible to perform work on public works projects pursuant to California Labor Code Sections 1777.1 or 1777.7. In accordance with California Public Contract Code Section 6109, contractors and subcontractors who are ineligible to perform work on public works projects pursuant to California Labor Code Sections 1777.1 or 1777.7 may neither bid on, be awarded or perform as a subcontractor on public works projects.

By: _____
(Official authorized to bind Bidder)

Title: _____

Firm: _____

END OF SECTION

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SECTION 00450

CERTIFICATION OF DRUG-FREE WORKPLACE

DRUG-FREE WORKPLACE CERTIFICATION

CONTRACTOR:_____

The contractor or applicant named above hereby certifies compliance with Government Code Section 8355 in matters relating to providing a drug-free workplace. The above-named contractor or applicant will:

1. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a).
2. Establish a Drug-Free Awareness Program as required by Government Code Section 8355(b), to inform employees about all of the following:
   (a) The dangers of drug abuse in the workplace,
   (b) The person's or organization's policy of maintaining a drug-free workplace,
   (c) Any available counseling, rehabilitation and employee assistance programs, and
   (d) Penalties that may be imposed upon employees for drug abuse violations.
3. Provide as required by Government Code Section 8355(c), that every employee who works on the proposed contract or loan:
   (a) Will receive a copy of the company's drug-free policy statement, and
   (b) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or loan.

CERTIFICATION

I, the officer of the company named above, hereby swear that I am duly authorized legally to bind the contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

Officers Name: _____

Date Executed _____ Executed in County of: _____

Signature: _____

END OF SECTION

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SECTION 00460

IRAN CONTRACTING ACT CERTIFICATION

(To Be Submitted with Bid)

(Public Contract Code Section 2200 *et seq.)*

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 et seq.) is true and correct:

☐ The Contractor is not:

(I) identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or

(II) a financial institution that extends, for 45 days or more, credit in the amount of $20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

☐ The City has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the City will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

☐ The amount of the Contract payable to the Contractor for the work does not exceed $1,000,000.

Signed_____

Titled_____

Firm_____

Date_____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of $250,000 or twice the Contract Price, termination of the Contract and/or ineligibility to bid on contracts for three years.

END OF SECTION

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SECTION 00480

CERTIFICATION OF BIDDER'S EXPERIENCE AND QUALIFICATIONS

(To Be Submitted with Bid)

PROJECT: Septage Hauling and Receiving Station

The undersigned Bidder represents that it is duly licensed, competent, and knowledgeable and has the special skills on the nature, extent and inherent conditions of the work to be performed on this project. Bidder further acknowledges that the conditions inherent in the construction of particular facilities may create, during construction, unusual or unsafe conditions hazardous to persons and property. Bidder expressly acknowledges that it is aware of such risks and that it has the skill and experience to foresee and to adopt and implement protective measures to adequately and safely perform the construction work with respect to such hazards. The prospective Bidder's qualifications and responses to the questions set forth below are part of the City's evaluation of the Bidder's eligibility to receive the award based on the Bidder's responsibility and responsiveness. The Owner has determined that only Bidders meeting the mandatory minimum experience and qualification requirements set forth below will have the requisite quality, fitness, capacity and experience to perform the highly complex and vital construction work on this Project.

If the Bidder is a Joint Venture of two or more companies, each participant in the Joint Venture shall separately complete this Section 00480, **CERTIFICATION OF BIDDER'S EXPERIENCE AND QUALIFICATIONS,** and each participant shall meet the mandatory prior company project experience requirement and provide project information for each Joint Venture participant in the format found below. The Joint Venture's named Project Manager information should be the same for each participant's certification. Each Joint Venture participant shall also provide the required financial information found in Item C below.

A. QUESTIONS REGARDING BIDDER'S RESPONSIBILITY AND FITNESS TO CONTRACT FOR THE WORK.

If the Bidder answers "Yes" to any of questions 1 through 11 below, the Bidder must provide on a separate sheet a complete, detailed explanation of all of the facts and circumstances concerning the reasons for answering "Yes" and shall provide written documentation supporting its response.

1. Has your company's contractor's license been revoked at any time in the last five years?

   ☐ Yes ☐ No

2. Within the last five years, has a surety company completed a contract on your company's behalf, or paid for the completion of a contract to which your company was a party, because your company was considered to be in default or was terminated with cause by the project owner?

   ☐ Yes ☐ No

3. At the time of submitting this minimum qualification questionnaire, is your company ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either California Labor Code Section 1777.1 or Labor Code Section 1777.7?

   ☐ Yes ☐ No

4. At any time in the last five years, has your company, or any of its officers or partners been convicted of a crime involving the awarding of a contract for a government construction project, or the bidding or performance of any federal, state or local government contract?

   ☐ Yes ☐ No

5. Has your company or any if its owners, officers or partners ever been found liable in a civil suit for making any false claim or material misrepresentation to any federal, state or local public agency or entity?

   ☐ Yes ☐ No

6. In the last five years, has your company been denied an award of a public works contract based on a finding by any federal, state or local public agency that your company was not a responsible Bidder?

   ☐ Yes ☐ No

7. Has the Bidder, as a Contractor, ever failed to satisfactorily complete a contract awarded to Bidder?

   ☐ Yes ☐ No

8. In the last three years, has your company been debarred from bidding on, or completing, any government agency or public works construction contract for any reason?

   NOTE: If there is a pending administrative or court action challenging a debarment, you need not include that debarment in responding to this question.

   ☐ Yes ☐ No

9. As a result of your company's actions or inactions, has the federal EPA, Region IX, or California Air Quality Management or Air Pollution Control District, or Regional Water Quality Control Board, or State Water Resources Control Board successfully and finally assessed penalties either against your company, or against an owner for violations occurring on a project on which your company was the contractor, three or more times in the past three years?

   NOTE: If there is a pending administrative or court action appealing a penalty assessment, you need not include that penalty assessment in responding to this question.

   ☐ Yes ☐ No

10. As a result of your company's actions or inactions, has the federal EPA, Region IX, or California Air Quality Management or Air Pollution Control District, or Regional Water Quality Control Board, or State Water Resources Control Board successfully and finally assessed a single penalty either against your company, or against an owner for a violation occurring on a project on which your company was the contractor, for a penalty amount over $100,000 in the last three years?

    NOTE: If there is a pending administrative or court action appealing a penalty assessment, you need not include that penalty assessment in responding to this question.

    ☐ Yes ☐ No

11. At any time in the last five years, has your company, or any of its officers or partners submitted a formal claim against the City?

    ☐ Yes ☐ No

B. MANDATORY MINIMUM COMPANY EXPERIENCE REQUIREMENTS

The Bidder has been engaged in the contracting business, under the present business name for ____ years and has experience in work of a nature similar to this project which extends over a period of ____ years (Bidder must show at least five (5) years of related experience). Work of similar nature is described below.

For the City to consider the Bidder a responsible Bidder for this specific procurement, given the complexity and importance of the timely and successful completion of the Project to further interests of the City and its residents, the Bidder must provide all information required below demonstrating that it has performed at least **five (5)** projects completed since **June 1, 2020** on the following type of project:

A. Contract Type – Public Works and/or Utilities

B. Station Type – Septage Hauling and/or Wastewater Facilities

C.

D.

Any projects listed below which are not as defined above will not be considered by the City in meeting this pre-requisite experience requirement. If Bidder lists a project(s) where the Bidder installed a Septic Station as a subcontractor on a larger project, Bidder should provide information as it pertains to the subcontract scope of work only.

Bidder also certifies that Bidder self-performed with its own labor force, including equipment and materials, at least **seventy percent (70%)** of the value of the Work on each of the projects listed below. The City considers this level of past self-performance demonstrates a benefit to a Project in terms of better control of cost, schedule and safety.

Bidders are to complete this form and not attach their own form to the Bid Form.

Project #1 Name: _____

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion: _____

Duration of Project (in months) _____

Project #2 Name: _____

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion: _____

Duration of Project (in months) _____

Project #3 Name: _____

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion: _____

Duration of Project (in months) _____

Project #4 Name: _____

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion: _____

Duration of Project (in months) _____

Project #5 Name: _____

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion: _____

Duration of Project (in months) _____

Total Construction Volume of listed Project(s) above: $ _____

PROJECT MANAGER or PROJECT SUPERINTENDENT EXPERIENCE- To be submitted with Bid.

The Bidder shall name below the Project Superintendent who will be assigned to this Project and will be personally present **on-site full time** during construction. Bidder shall submit past completed municipal supply well construction project experience of this person. List three completed public works or utilities construction projects below where the individual named below held the position of Project Superintendent. One of the listed public works or utilities construction projects must have a contract amount greater than **$600,000**. The demonstrated experience of the Project Superintendent must have been within the last **five (5) years**.

Name of Project Superintendent: _____

Number of Years of Total Construction experience as a Project Superintendent assigned to the types of projects as defined above: _____years

Number of Years as a Project Superintendent for your Company: _____ years

List three completed ***Public Works or Utilities construction projects*** where the individual named above held the position of Project Superintendent. One of the projects must have a contract value of at least **$600,000**.

Project #1 Name: _____

Owner: _____

Construction Cost: $ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion (must be within the last five(5) years): _____

Duration of Project (in months) _____

Project #2 Name: _____

Owner: _____

Construction Cost: $ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion (must be within the last five(5) years): _____

Duration of Project (in months) _____

Project #3 Name: _____

Owner: _____

Construction Cost: $ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Representative Telephone No.: _____

Engineer or On-Site Construction Mgr.: _____

Engineer or On-Site CM's Telephone No.: _____

Date of Substantial Completion (must be within the last five(5) years): _____

Duration of Project (in months) _____

This form is to be fully completed and submitted by the Bidder with the Bid. Bidder is not allowed to provide a substitute form of similar information.

The City will check project references listed to verify information provided along with skills and capacity represented by Bidder. It is very important that the Bidder verify that all contact information is current for each name listed above.

Failure of the Bidder to provide current and valid project contact information, all information required by this certification, and/or failure of the Bidder to meet both the pre-requisite Company and Project Superintendent experience may be grounds for the City to determine the Bidder to be non-responsive and/or non-responsible and therefore ineligible for contract award.

C. FINANCIAL INFORMATION- DO NOT SUBMIT THE FOLLOWING INFORMATION WITH YOUR BID! The three lowest monetary Bidders shall submit, within three (3) business days following the bid opening date, the following claim information.

The City reserves the right to request financial information from other bidders at a later time, if necessary, prior to award.

1. Bidder shall identify each claim filed against it in the last five (5) years by any project owner in arbitration or litigation seeking in excess of $100,000 and which (i) the project owner prevailed; or (ii) the resolution resulted in the project owner receiving an amount equal to or in excess of 55% of the amount asserted. For each such claim, Bidder shall provide the project name, date of the claim, name of the claimant, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution and the amount of the resolution). Are there any pending claims against your company that should you lose the claim(s), would adversely affect your financial position or your ability to meet your obligations if awarded the contract for this project? If so, please explain.

Claims Filed <u>Against</u> Bidder

Project Name: _____

Date of Claim: _____

Claimant Name: _____

Court: _____

Status of Claim: _____

Explanation: _____

_____

Bidder shall identify each claim filed by it in the last five (5) years against any project owner in arbitration or litigation seeking in excess of $100,000 and which (i) the Bidder lost; or (ii) the resolution resulted in the Bidder receiving an amount equal to less than 50% of the amount asserted. For each such claim, Bidder shall provide the project name, date of the claim, name of the project owner, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution and the amount of the resolution). Are there any pending claims by your company against a project owner that should you lose the claim(s), would adversely affect your financial position or your ability to meet your obligations if awarded the contract for this project? If so, please explain.

Claims Filed <u>By</u> Bidder

Project Name: _____

Date of Claim: _____

Claimant Name: _____

Court: _____

Status of Claim: _____

Explanation: _____

_____

To the extent permitted by law, all financial information provided by Bidder that is marked “Confidential” or “Proprietary” shall be handled by the City as non-disclosable in accordance with California Public Records Act (Government Code 6250). The City, upon receipt of the requested financial information shall treat the same as confidential and take such reasonable measures as to protect it from public access. If the City receives a request, whether via the Public Records Act and/or via a judicial process that seeks the publication and/or production of said information, City agrees to provide notice in writing to the entity whose information is sought to afford them an opportunity to challenge the third party's access and/or to seek to quash the judicial process which seeks the publication and/or production thereof.

VERIFICATION AND SIGNATURE

I, the undersigned, certify and declare that I have read all the foregoing answers to this Statement of Qualifications Questionnaire. I also certify and declare that I have personally reviewed and approved the information provided for the Company Experience, Project Superintendent Experience, Company Safety Information and Financial Information. I certify and declare that the foregoing is true and correct.

Signed this _____ day of _____, 20____

_____
Bidder’s Name

_____ _____
Authorized Signature Date

_____
Title of Signator

END OF SECTION

SECTION 00490

STATEMENT OF SAFETY COMPLIANCE

The Contractor agrees in accordance with the requirements of California Labor Code Section 6400 and related provisions of law the Contractor, the Contractor's privities and any other entities acting pursuant to this contract will be “employers” responsible for furnishing employment and a place of employment that is safe and healthful for the employees, if any, of such entities acting pursuant to this contract and that the Owner will not be responsible for having hazards corrected and /or removed at the location where the work under the contract is to be performed.

The Contractor hereby acknowledges Owner concerns regarding safety at its facility and at the Project worksite. The Contractor shall conduct its operations to eliminate or reduce hazards and risks associated with Contractor’s activities, to prevent accidents and injuries, and to prevent property damages. Therefore, strict compliance with all of the most current safety, health and environmental regulations (federal, state and local) is required. Non-compliance with these regulations may result in suspension or termination of work in progress.

The Contractor’s Safety Programs must accomplish the foregoing objectives. The Contractor certifies that its Safety Programs comply and will satisfy these requirements. The Contractor also certifies that each Subcontractor and Sub-subcontractors and other parties with which it has agreements to perform work on the Project worksite will also comply and will satisfy these requirements.

The mandatory (and other) Contractor Safety Programs are delineated in Part A of the attached Contractor Safety Operations Requirements. The Contractor further certifies that it can furnish mandatory satisfactory evidence of compliance.

The Contractor further acknowledges that its Subcontractors and Sub-subcontractors will provide all Safety Compliance documents to Contractor in accordance with Specification Section 00490.

Executed On: _____, _____

_____ _____

Signature Name of Bidder

_____

Title

Name of Bidder: _____

PART A - Safety Programs

Please indicate below whether your firm has the following written safety programs. If any of the programs listed do not apply to your operations or this project, please make note of this in the "Comments" column. Include any information that you think would be helpful to us in making this assessment. Those programs that are indicated as mandatory must be available for review before commencing work on this project. Other safety programs may be requested if it is later determined that they are applicable to the Project, and as such, must be made available for review upon request, at no additional charge to the Owner.

Program		Do you have a written program?		Program meets Cal/OSHA Criteria		Sub will provide	Have project employees been trained?		Is the training documented?		Comments
Mandatory		Yes	No	Yes	No		Yes	No	Yes	No	
YES	Injury and Illness Prevention										
YES	Hazard Communication										
YES	Confined Space Operations										
	Respiratory Protection										
	Emergency Response										
	Hearing Conservation										
YES	Lockout/Tagout										
YES	New Employee Orientation										
YES	Excavation Safety										
	Code of Safe Practices										
YES	Personal Protective Equipment (PPE)										
YES	Drugs/Alcohol										
YES	Traffic Control Safety										
YES	Fall Prevention Plan [(1)]										
YES	**Sutter County Health Order for COVID-19, Construction Project Safety Protocol**										

[(1)] If conventional fall protection measures cannot be used.

PART B - Safety Equipment - Identify what safety equipment will be available and used for this project.

Type	Description/Comments
[ ] Gas detectors	
[ ] Ventilation equipment	
[ ] Approved harnesses and lanyards	
[ ] Mechanical hoists	
[ ] Fire extinguishers	
[ ] First aid kits	
[ ] Respirators	
[ ] Hard hats	
[ ] Hearing protectors	
[ ] Safety goggles	
[ ] Steel toed footwear	
[ ] Hand protection	
[ ] Fall protection	
[ ] Confined Space Rescue Equipment	
[ ]	

PART C - Specialized Training and Certification - Identify the areas of specialized training or certification that will have been completed by employees who will be assigned to this project. Be prepared to provide documentation as requested.

[ ]	CPR/first aid	[ ]	Confined space operations and rescue	[ ]	Scaffolding
[ ]	Fork lift operation	[ ]	Respirators [ ] Air-Supplying [ ] Air-Purifying	[ ]	Flagging
[ ]	Cranes/hoists operation	[ ]	Trenching and shoring competent person	[ ]	Traffic Control
[ ]	Heavy equipment operation	[ ]	Welding	[ ]	
[ ]	Powder-actuated tools use	[ ]	Asbestos abatement	[ ]	

PART D - Jobsite Safety Practices

1. Name of person who will have responsibility for jobsite safety?

   _____

2. Who will be responsible for conducting and documenting accident investigations?

   _____

   Does your company perform near-miss investigations? _____

   Please provide sample copy of investigation forms.

3. How often are jobsite safety audits or inspections performed, _____

   and by whom?_____

4. Does the person who is responsible for jobsite safety have authority to take immediate action to correct unsafe conditions of work practices?_____

5. How often are jobsite tailgate or toolbox safety meetings held?_____

6. Briefly describe how you will ensure that workers comply with safety programs and Cal/OSHA requirements?

   _____

   _____

   _____

7. Please list any Cal/OSHA citations and penalties you have received in the last three years.

   _____

   _____

8. Have there been any on-the-job fatalities at any job site managed by the Contractor in the last five years?_____

   If yes, please explain.

   _____

   _____

   _____

9. Does your company have a safety incentive program? _____
   If yes, please explain.

   _____

   _____

   _____

PART E: Evaluation Worksheet

(FOR USE BY THE OWNER ONLY)

Company Name _____

Contact Person_____

Item	Program is Mandatory	Contract or has Written Program	Contractor States Program meets Cal/OSHA Criteria	Comments
PART A: Safety Programs				
Injury and Illness Protection	Yes			
Hazard Communication	Yes			
Confined Space Operations	Yes			
Lockout / Tagout	Yes			
New Employee Orientation	Yes			
Drug and Alcohol Policy	Yes			
Excavation Safety	Yes			
Traffic Control	Yes			
Other Programs: PPE, Fall Protection				
PART B: Safety Equipment				
PART C: Training and Certifications				
PART D: Jobsite Safety Practices				
Responsible Person Named				
Accident Investigations				
Worksite Safety Inspections				
Safety Meetings				
Compliance With Safety Requirements				
Cal/OSHA Citations/Penalties				
Fatalities				
Safety Incentives				

END OF SECTION

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SECTION 00500

NOTICE OF AWARD

Date: _____

To: _____
(Name of Bidder)

Address: _____

_____

Project Name: Septage Hauling and Receiving Station

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for constructing the Septage Hauling and Receiving Station.

The Total Contract Price of your Contract is _____ Dollars ($_____).

Three (3) copies of each of the proposed Section 00520, Agreement, accompany this Notice of Award.

You must comply with the following conditions precedent within fifteen (15) calendar days of the date you receive this Notice of Award.

1. Deliver to Leticia Villalobos at 1201 Civic Center Boulevard, Yuba City, CA, 95993 three (3) signed copies of the Agreement, as found in Section 00510, leaving the date blank. Deliver to the attention of: _____. If mailed, please mail to _____.
2. Deliver with the Agreement the appropriate Certificate of Authorization found in Sections 00515, 00520, 00525, or 00530.
3. Deliver with the Agreement the Contract Bonds as specified and found in Sections 00540, Performance Bond**,** and 00550, Payment Bond.
4. Deliver with the Agreement all required original Insurance Certificates and endorsements as required in Sections 00700, Article 13- Insurance and Indemnification.
5. Deliver with the Agreement a signed Workers' Compensation Insurance Certificate found in Section 00560.

Failure to comply with these conditions within the time specified will entitle the City to consider you in default, annul this Notice of Award and declare your Bid security forfeited.

Within ten (10) calendar days after you comply with the above conditions, the City will return to you one fully executed Agreement for your records.

City of Yuba City

By: _____

Its: _____

Copy to:

END OF SECTION

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SECTION 00510

AGREEMENT

AGREEMENT FOR THE CONSTRUCTION OF

SEPTAGE HAULING AND RECEIVING STATION

PROJECT NO. 25-04

(Document will be re-typed after Contract Award)

THIS AGREEMENT made and entered into this ___ day of _____, 2025, between the City of Yuba City, a public entity in Sutter County, organized and existing under the laws of the State of California, hereinafter referred to as the "City" or "Owner" and , _____ , hereinafter referred to as the "Contractor";

RECITALS

WHEREAS, the City Council heretofore caused Drawings and Specifications for the Work hereinafter mentioned to be prepared, and therefore did approve and adopt the Drawings and Specifications; and

WHEREAS, the City Council did cause to be published for the time and in the manner required by law, a Notice inviting sealed Bids for the performance of the Work; and

WHEREAS, the Contractor, in response to such Notice, submitted to the City within the time specified in the Notice, and in the manner provided for therein, a sealed Bid for the performance of the Work specified in the Contract Documents, which the Bid, and the other Bids submitted in response to the Notice, the City publicly opened and canvassed in the manner provided by law; and

WHEREAS, the Contractor was the lowest responsible Bidder for the performance of the Work, and the City Council, as a result of the canvass of the Bids, did determine and declare Contractor to be the lowest responsible Bidder for the Work and award a Contract to Contractor to do the Work referred to in the aforementioned plans and specifications; and

WHEREAS, Contractor is ready, willing and able to complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings and all other terms and conditions of the Contract Documents; and

NOW, THEREFORE, in consideration of the mutual covenants hereinafter, the City and Contractor agree as follows:

ARTICLE 1 - SCOPE OF WORK

1.1 The Work. The Contractor shall furnish all labor, materials, tools, apparatus, equipment, transportation, insurance, bonds, special services and skill to construct and complete in good workmanlike and substantial manner to the satisfaction of the City all the Work called for, and in the manner designated in, and in strict conformity with the Contract Documents for the project entitled: Septage Hauling and Receiving Station. All incidental work not shown on the Plans or specified herein which is necessary to complete the Work so as to provide the project described, or shown, shall be furnished and installed as part of this Contract at no additional cost to the City.

1.2 Location of Work. The Work will be performed at the following location: Yuba City Wastewater Treatment Facility, 302 Burns Drive in the City of Yuba City, CA as shown on the Contract Drawings.

ARTICLE 2 - CONTRACT DOCUMENTS

2.1 Contract Documents.

The Contract Documents consist of the following documents:

- Introductory Information (Sections 00005 through 00010)
- Bidding Requirements (Sections 00100 through 00480. Does not include Section 00300, Supplemental Project Information Available to Bidders);
- Contracting Requirements (Sections 00510 through 00800);
- General Requirements (Division 1);
- Technical Specifications including all Tables, Exhibits and Attachments;
- City Standard Specifications
- Contract Drawings;
- Addenda (numbers ___ to____, inclusive);
- Permits from other agencies as may be required by law; and
- All other documents incorporated by reference into these Contract Documents.
- The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
  - Notice to Proceed (Section 00600);
  - Field Directive(s);
  - Change Order(s);
  - Construction Change Directive; and
  - Field Order(s).

2.2 Not Contract Documents. There are no Contract Documents other than those listed in this Section 00510, Article 2, Contract Documents, Section 00300, Supplemental Project Information Available to Bidders, and the information supplied therein, are not Contract Documents. The Contract Documents may only be amended, modified or supplemented as provided for in Section 00700, General Conditions and Section 00800, Supplemental General Conditions**.**

2.3 Definitions and Terms. Unless otherwise specifically provided herein, all terms, words and phrases defined in Section 00700- 1.02, Definitions of Words and Terms, shall have the same meaning and intent in this Agreement.

2.4 Entire Contract; Interpretation. This Agreement, together with the Contract Documents, constitutes the entire agreement between the Parties with respect to the subject matter hereof, and supersedes all prior oral or written agreements between the Parties with respect thereto (including without limitation, City's award of the Contract to Contractor and any applicable letter of intent), unless such agreement is expressly incorporated herein. City makes no representations or warranties, express or implied, not specified in this Agreement or the Contract Documents. This Agreement and the Contract Documents are the product of negotiation between the Parties. Accordingly, any rule of construction of contracts (including, without limitation, California Civil Code §1654) that ambiguities are to be construed against the drafting party shall not be employed in the interpretation of this Agreement or the Contract Documents.

2.5 Severability. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon City and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

2.6 Amendments. The terms of this Agreement or the Contract Documents shall not be waived, altered, modified, supplemented or amended in any manner whatsoever except as authorized by the Contract documents or by a written instrument signed by the Parties.

2.7 Further Assurances. The Parties shall cooperate fully in the execution of any and all other documents and in the completion of any additional actions that may be necessary or appropriate to give full force and effect to the terms and intent of this Agreement and the Contract Documents.

ARTICLE 3 - CONTRACT PRICE

3.1 Contract Price Breakdown. Subject to additions and deductions by Change Order(s) as provided in the Contract Documents, the City agrees to pay and Contractor agrees to accept, in full payment for completion of the Work in accordance with the Contract Documents as follows:

Bid Items

Item	Description	Quantity	Unit	Unit Cost, Dollars	Extended Price
1	Bonds and Insurance	Lump Sum			
2	Mobilization (maximum of 2%)	Lump Sum			
3	Preparation and approval of all Project Submittals.	Lump Sum			
4	Temporary Facilities, Fences, and Protection of the Work	Lump Sum			
5	SWPP Permit and Erosion Control	Lump Sum			
6	All Traffic Control and Preparation and Approval of Traffic Control Plan.	Lump Sum			
7	All Preliminary Site Work, Clearing, Grubbing, Potholing and Off-Haul of Material	Lump Sum			
8	General Excavation, Removal and Disposal of Soil, and Placement and Compaction of Native and Required Import Material at Septage Structure.	Lump Sum			
9	General Excavation, Removal and Disposal of Soil, and Placement and Compaction of Native and Required Import Material for All New Pipe Trenches, Including in Burns Drive.	Lump Sum			
10	Placement of Base Rock Under Roadways	Lump Sum			
11	Placement of Base Rock Under Concrete Structures	Lump Sum			
12	Asphalt Paving, Patching, and Repair in Burns Drive	Lump Sum			

13	Asphalt Paving at New Septage Road Extension.	Lump Sum			
14	Concrete Repair in Burns Drive and Other Miscellaneous Concrete Repair Work.	Lump Sum			
15	Installation of Concrete at Septage Structure, Slab, and Trench Drains.	Lump Sum			
				Labor and Materials Total Bid Price	

Alternate Bid Items

Item	Description	Quantity	Unit	Unit Cost, Dollars	Extended Price
1	Additional Base Rock and Asphalt Paving at New Septage Road Extension as Indicated on the Drawings	Lump Sum			

TOTAL BID AWARD PRICE (Items 1 through 15) $_____

TOTAL ALTERNATE BID PRICE (Item 1) $_____

TOTAL BID AWARD PRICE (in words) _____

The above Total Contract Price includes all allowances, if any, provided for in the Contract Documents. Progress and final payments shall be in accordance with the General Conditions.

When, under the provisions of this Agreement, the City shall charge any sum of money against Contractor, City shall deduct and retain the amount of such charge from the amount of the next succeeding progress estimate, or from any other moneys due or that may become due to the Contractor from City. If, on completion or termination of the Contract, sums due Contractor are insufficient to pay City's charges against him, the City shall have the right to recover the balance from Contractor or its sureties.

Compensation for Unit Price Items shall be based upon the unit prices stated in above schedule times the actual quantities or units of work and materials performed or furnished. Unit prices paid by the City may change depending on actual quantities or units or work completed in accordance with Section 00700-9.04, Increased or Decreased Quantities.

3.2 Substitution of Securities for Money Withheld. At any time prior to final payment, Contractor may request substitution of securities for any money withheld by the City to ensure performance of the Agreement in the manner as provided by California Public Contract Code §22300. At the expense of the Contractor, securities equivalent to the money withheld may be deposited with the City or with an approved financial institution as escrow agent according to a separate Security Agreement. Securities eligible for substitution shall include those listed in §16430 of the California Government Code or bank or savings and loan certificates of deposit.

ARTICLE 4 - CONTRACT TIMES

4.1 Time is of the Essence. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of this Agreement.

4.2 Commence Work. Contractor shall commence execution of the Work on the date established in the Notice to Proceed. The City reserves the right to modify or alter the Commencement Date of the Work.

4.3 Days to Achieve Contract Times. The Contractor shall diligently execute the Work to complete each Milestone listed below within the following number of consecutive calendar days from the date established in the Notice to Proceed for the commencement of the Contract Time.

Times Allowed for Completion

Contractual Completion Event	Completion Time (# of calendar days from Notice to Proceed date) or Seasonal Dates
Substantial Completion	120
Final Completion	140

Milestones – Milestones are further defined in Section 01140, Work Restrictions and Section 00800, Supplementary Conditions.

4.4 Liquidated Damages. The City and Contractor recognize that time is of the essence of this Agreement and that the City will suffer financial loss if the Work is not completed within the contract times specified in 4.3, **Days to Achieve Contract Times**. The actual fact of the occurrences of damages and the actual amount of the damages which City would suffer if the Work were not completed within the specified times set forth above are dependent upon many circumstances and conditions which could prevail in various combinations, and, from the nature of the case, it would be impracticable and extremely difficult to fix the actual damages.

Damages which City would suffer in the event of delay include loss of the use of the Project, and, in addition, expenses of prolonged employment of an architectural and engineering staff; costs of administration, construction management, inspection, and supervision; the loss suffered by the public within the City's constituent cities by reasons of the delay in the completion of the project to serve the public at the earliest possible time; and, costs associated with ongoing and extended permit compliance.

Accordingly, the City and the Contractor agree that as liquidated damages for delay, in accordance with California Government Code Section 53069.85, the Contractor will forfeit and pay to the City liquidated damages in the amounts set forth in the table below, per day for each and every calendar day that expires after the time for completion specified in the above section 4.3, Days to Achieve Contract Times, except as otherwise provided by extension of time pursuant to Section 00700-8.04, Time Extensions, of the General Conditions.

It is further understood and agreed in accordance with California Government Code Section 53069.85 that the liquidated damages sum specified in this provision is not manifestly unreasonable under the circumstances existing at the time this Contract was made, and that the City may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the Contractor.

Damages for Delays

Milestone	Contractual Completion Event	Dollars Per Day Liquidated Damages (Amount in Dollars)
	Substantial Completion	N/A
	Final Completion	$3,600

ARTICLE 5 - INSURANCE AND BONDS

5.1 **Insurance.** Contractor shall maintain in full force and effect at all times during the term of the Agreement, at its sole expense, policies of insurance in accordance with the General Conditions and the Supplementary Special Conditions. By execution of this Agreement, the Contractor certifies as follows:

"I am aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this contract."

5.2 **Faithfull Performance Bond and Payment Bond.** The Contractor, simultaneously with the execution of the Agreement, will be required to furnish a Faithful Performance Bond to guarantee the Faithful Performance of the Contract equal to one hundred (100%) of the Total Contract Price set forth in Article 4 and a Payment Bond required by Part 4, Title 15, Chapter 7, Division Three of the Civil Code of the State of California equal to one hundred percent (100%) of the Total Contract Price set forth in Article 4. The bonds must be issued by a surety company admitted in California and with a current A.M. Best's rating of no less than A-:VII or equivalent, unless otherwise approved by Agency.

Any alteration(s) made in any provision of this Agreement shall not operate to release any surety from liability on any bond required hereunder and the consent to make such alteration(s) is hereby given, and any surety on said bonds hereby waives the provisions of Sections 2819 and 2845 of the California Civil Code.

Contractor must submit the following document with the bonds: The original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws or other instrument entitling or authorizing the person who executed the bond to do so.

ARTICLE 6 - CITY'S REPRESENTATIVE(S) AND AUTHORITY'S CONSULTANTS

6.1 **City's Representative**. The City has designated **Leticia Villalobos,** or his/her designee to act as City's Representative. The City may change the individual(s) acting as City's Representative(s), or delegate one or more specific functions to one or more specific City's Representative at any time with notice and without liability to Contractor. Each City's Representative is the beneficiary of all Contractor obligations to the City, including without limitation, all releases and indemnities. All documents requiring the signature/approval of City shall be signed by the City's Representative.

6.2 **Design Engineer.** The City has designated **HERWIT Engineering** to act as Design Engineer. The Design Engineer is included within and covered by Contractor's release and indemnity obligations to the City.

6.3 **Construction Manager.** The City has designated **Leticia Villalobos,** to act as Construction Manager. The City may assign, upon mutual agreement, all or part of the City's Representative's duties, rights and responsibilities to the Construction Manager. The Construction Manager is the beneficiary of all Contractor obligations to the City, including without limitation, all releases and indemnities.

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

7.1 **Representations and Warranties**. In order to induce the City to enter into this Agreement, Contractor makes the following representations and warranties:

A. Contractor has visited the Site and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.

B. Contractor has examined thoroughly and understood all reports of exploration and tests of subsurface conditions, record drawings, drawings, products specifications or reports, available for bidding purposes, of physical conditions, including Underground Facilities, which are identified in Section 00300, Supplemental Project Information Available to Bidders**,** or which may appear in the Contract Documents. Contractor further acknowledges and agrees that, in executing the Agreement, it is relying on its own observation of (1) the site of the Work, (2) access to the Site, (3) all other data and matters requisite to the fulfillment of the Work and on its own knowledge of existing facilities on and in the vicinity of the site of the Work to be constructed under the Contract, (4) the conditions to be encountered, (5) the character, quality and scope of the proposed Work, (6) the quality and quantity of the materials to be furnished, and (7) the requirements of the Contract, the plans, the specifications, and other related information made available to Contractor by the City.

C. Contractor has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

D. Contractor has given the City prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and record drawings and actual conditions and the written resolution thereof (if any) through Addenda issued by the City is acceptable to Contractor.

E. Contractor is duly organized, existing and in good standing under applicable state law, and is duly qualified to conduct business in the State of California.

F. Contractor has duly authorized the execution, delivery and performance of this Agreement, the other Contract Documents and the Work to be performed herein. The Contract Documents do not violate or create a default under any instrument, agreement, order or decree binding on Contractor.

Contractor has listed the following Subcontractors consistent with the Subcontractor Listing Law, California Public Contract Code §4100 *et seq*.: **Name of Subcontractor and Address of Mill or Shop**	**Description of Subcontractor's Work**	**Subcontractor's License No.**

ARTICLE 8 - LABOR CODE COMPLIANCE AND DAVIS-BACON WAGES

8.1 California Labor Code. Pursuant to the provisions of §1770 et seq. of the California Labor Code, which are hereby incorporated by reference and made a part hereof, the Director of the Department of Industrial Relations has determined the general prevailing rate of the per diem wages and the general prevailing rate for holiday and overtime Work in the locality in which the Work is to be performed, for each craft, classification or type of worker needed to perform the Work. Per diem wages shall be deemed to include employer payments for health and welfare, pension, vacation, apprenticeship or other training programs, and similar purposes. Copies of the rates are on file at City office or may be downloaded from the State Department of Industrial Relations website, Division of Labor Statistics and Research, http://www.dir.ca.gov/dlsr/. The rate of prevailing wage for any craft, classification or type of workmanship to be employed in performing the Work is the rate established by the applicable collective bargaining contract which rate so provided is hereby adopted by reference and shall be effective for the life of this Agreement or until the Director of the Department of Industrial Relations determines that another rate is adopted.

It shall be mandatory for the Contractor and all subcontractors to pay not less than such specified prevailing wage rates to all workers employed in the performance of the Work. If any worker engaged in the performance of the Work is paid less than the specified prevailing wage rate, the Contractor shall pay to each such worker the difference between the specified prevailing wage rate and the actual amount paid to such worker for each calendar day or portion thereof. In addition, Contractor shall comply with the provisions of California Labor Code §1775, including provisions which require Contractor to (a) forfeit as penalty to City not more than $200 for each calendar day or portion thereof for each worker (whether employed by Contractor or any Subcontractor) paid less than the applicable prevailing wage rates for any work done under this Contract in violation of the provisions of the California Labor Code, and (b) pay to each worker the difference between the prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof for which the worker was paid less than the prevailing wage.

The Contractor and each Subcontractor shall keep or cause to be kept an accurate record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week for all laborers, workers and mechanics employed in connection with the performance under the Contract Documents or any subcontract thereunder, and showing the actual per diem wage paid to each of such workers, which records shall be open at all reasonable hours to inspection by City and its agents and to the representatives of the Division of Labor Law Enforcement of the State Department of Industrial Relations. Contractor assumes all responsibility for such payments and shall defend, indemnify and hold the City harmless from any and all claims made by the State of California, the Department of Industrial Relations, any Subcontractor, any worker or any other third party with regard thereto. Contractor shall be responsible to ensure compliance with section 1776. Failure to comply with that section may result in the California Labor Commissioner’s assessment of a penalty of $100 per day per affected worker.

The Contractor shall post, at each jobsite, a copy of such prevailing rate of per diem wages as determined by the Director for the California Department of Industrial Relations and all job site notices as prescribed by California Labor Code Section 1771.1.

Pursuant to California Labor Code Section 1771.4, this Project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

The successful Bidder and its subcontractors shall employ the appropriate number of apprentices, in each apprenticeable craft, on the project site as stipulated in California Labor Code sections 1777.5, 1777.6 and 1777.7. Failure to comply may result in the California Labor Commissioner’s assessment of a penalty of $100 for each day of noncompliance.

Pursuant to California Labor Code Section 1771.1, by execution below, the Bidder and its Subcontractors certify that when the Bidder’s bid was submitted, the Bidder and its Subcontractors were registered and qualified to perform public work pursuant to Section 1725.5 of the California Labor Code, subject to limited legal exceptions. Pursuant to California Labor Code Section 1771.1, by execution below, the Bidder and its

Subcontractors certify that they are registered and qualified to perform public work pursuant to Section 1725.5 of the California Labor Code, subject to limited legal exceptions.

8.2 Davis-Bacon Wages.- Not Used.

ARTICLE 9 - MISCELLANEOUS PROVISIONS

9.1 Assignment. Contractor shall not assign this Contract or any rights under or interests in the Contract without the City's written approval. No assignment will release or discharge the Contractor from any duty or responsibility under the Contract Documents.

9.2 Successors and Assigns; No Third-Party Beneficiaries. The provisions of this Agreement and the Contract Documents shall inure to the benefit of and shall apply to and bind the successors and permitted assigns of the Parties. Nothing contained in this Agreement, or the Contract Documents is intended to or shall be deemed to confer upon any person, other than the Parties and their respective successors and permitted assigns, any rights or remedies hereunder.

9.3 Contractor Bankrupt. If Contractor should commence any proceeding under federal bankruptcy law, or if Contractor be adjudged a bankrupt, or if Contractor should make any assignment for the benefit of creditors, or if a receiver should be appointed on account of Contractor's insolvency, then the City may, without prejudice to any other right or remedy, terminate the Agreement and complete the Work by giving notice to Contractor and its surety according to the General Conditions.

The City shall have the right to complete, or cause completion of the Work, all as specified in the General Conditions.

9.4 Unfair Competition. The following provision is included in this Agreement pursuant to California Public Contract Code §7103.5.

"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assigning to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with §16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, with further acknowledgment by the parties."

9.5 Nondiscrimination and Equal Opportunity. The Contractor shall not discriminate on the basis of a person's race, religion, color, national origin, age, physical or mental handicap or disability, medical condition, marital status, sex, or sexual orientation, against any employee, applicant for employment, subcontractor, bidder for a subcontract, or participant in, recipient of, or applicant for any services or programs provided by Contractor under this Agreement. Contractor shall comply with all applicable federal, state, and local laws, policies, rules, and requirements related to equal opportunity and nondiscrimination in employment, contracting, and the provision of any services that are the subject of this Agreement, including but not limited to the satisfaction of any affirmative obligations required of Contractor thereby.

Contractor shall include the provisions of this Subsection in any subcontract.

9.6 No Waiver of Remedies. Neither the inspection by the City or its agents, nor any order or certificate for payment of money, nor any payment for, nor acceptance of the whole or any part of the Work by the City, nor any extensions of time, nor any positions taken by City or its agents shall operate as a waiver of any provision of this Agreement or the Contract Documents or of any power herein reserved to City or any right to damages herein provided, nor shall any waiver of any breach of this Agreement or of the Contract Documents be held to be a waiver of any other or subsequent breach. All remedies provided in this Agreement and in the Contract Documents shall be taken and construed as cumulative; that is, in addition

to each and every other remedy provided in this Agreement and/or the Contract Documents, and the City shall have any and all equitable and legal remedies, which it would in any case have.

9.7 Governing Law. This Agreement and the Contract Documents shall be deemed to have been entered into in the County of Contra Costa, State of California, and governed by California law (excluding choice of law rules). By entering into this Agreement, the Contractor consents and submits to the jurisdiction of Courts of the State of California, over any action of law, suit in equity, and/or other proceeding that may arise out of the Contract Documents.

9.8 Notices. Except as otherwise specified herein, all notices to be sent pursuant to this Agreement or the Contract Documents shall be made in writing and sent to the Parties at their respective addresses specified below or to such other address as a Party may designate by written notice delivered to the other parties in accordance with this Section. All such notices shall be sent by:

A. personal delivery, in which case notice is effective upon delivery;

B. certified or registered mail, return receipt requested, in which case notice shall be deemed delivered on receipt if delivery is confirmed by a return receipt;

C. nationally recognized overnight courier, with charges prepaid or charged to the sender's account, in which case notice is effective on delivery if delivery is confirmed by the delivery service;

D. facsimile transmission, in which case notice shall be deemed delivered upon transmittal, provided that (a) a duplicate copy of the notice is promptly delivered by first-class or certified mail or by overnight delivery, or (b) a transmission report is generated reflecting the accurate transmission thereof. Any notice given by facsimile shall be considered to have been received on the next business day if it is received after 5:00 p.m. recipient's time or on a non-business day.

Any written notice to Contractor shall be sent to:

Company Name _____

Company Address _____

Individual's Name _____

Individual's Email Address _____

Individual's Direct Dial Phone #: _____

Individual's Fax # _____

Any written notice to City shall be sent to:

Director of Public Works
City of Yuba City
1201 Civic Center Boulevard
Yuba City, CA, 95993

9.9 Execution in Counterparts. This Agreement may be executed in counterparts each of which shall be deemed an original and all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have signed the Agreement on the date set forth opposite their names.

CONTRACTOR
Under penalty of perjury, I certify that the taxpayer identification number and all other information provided here are correct.

Date: _____

Federal I.D. #: _____

DIR Registration # _____ State ID # _____

California Contractor's License # & Classifications _____ Expiration Date _____

_____ _____
Signature Signature

_____ _____
Print Name Print Name

_____ _____
Title Title

Type of Business Entity *(check one)*:

_____ Individual/Sole Proprietor
_____ Partnership
_____ Corporation
_____ Limited Liability Company
_____Other (*please specify:*_____)

If Contractor is an out-of-state corporation, Contractor warrants and represents that it possesses a valid certificate of qualification to transact business in the State of California issued by the California Secretary of State pursuant to Section 2105 of the California Corporations Code.

CITY OF YUBA CITY
a California Municipal Corporation

DATE: _____ BY _____
Robert Bondorf, City Manager

Original Approved As To Form: Attest:

_____ _____
Shannon L. Chaffin, City Attorney Ciara Wakefield, City Clerk

Original Approved as to Form:

_____
Joshua Wolffe, Director of Public Works

END OF SECTION

SECTION 00515
CERTIFICATE OF AUTHORIZATION

(If Contractor is a Corporation)

STATE OF CALIFORNIA

COUNTY OF SUTTER

I HEREBY CERTIFY that at a meeting of the Board of Directors of the _____, a corporation existing under the laws of the State of California, held on_____,20____, the following resolution duly passed and adopted:

"RESOLVED, that _____, as_____ President of the Corporation, be and is hereby authorized to execute the Agreement dated_____, 20__, to the City of Yuba City and this Corporation and that his/her execution thereof, attested by the Secretary of the Corporation, and with the Corporate seal fixed, shall be the official act and deed of this Corporation."

I further Certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Corporation this_____ day of_____, 20__.

(seal)

_____
Secretary

_____
Corporate Officer

Company Address:

_____

_____

_____

END OF SECTION

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SECTION 00520

CERTIFICATE OF AUTHORIZATION

(If Contractor is a Partnership)

STATE OF CALIFORNIA

COUNTY OF SUTTER

I HEREBY CERTIFY that at a meeting of the Partners of the _____, a Partnering existing under the laws of the State of California, held on_____,20____, the following resolution duly passed and adopted:

“RESOLVED, that _____, as_____ of the Partnership, be and is hereby authorized to execute the Agreement dated_____, 20__, to the City of Yuba City (“City”) and this Corporation and that his/her execution thereof, attested by the _____, shall be the official act and deed of this Joint Venture."

I further Certify that said resolution is now in full force and effect.

_____
Managing Partner

Date: _____

Company Address:

_____

_____

_____

END OF SECTION

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SECTION 00525

CERTIFICATE OF AUTHORIZATION

(If Contractor is a Joint Venture)

STATE OF CALIFORNIA

COUNTY OF SUTTER

I HEREBY CERTIFY that at a meeting of the Principals of the _____, a Joint Venture existing under the laws of the State of California, held on_____,20____, the following resolution duly passed and adopted:

"RESOLVED, that _____, as_____ of the Joint Venture, be and is hereby authorized to execute the Agreement dated_____, 20__, to the City of Yuba City ("City") and this Corporation and that his/her execution thereof, attested by the _____, shall be the official act and deed of this Joint Venture."

I further Certify that said resolution is now in full force and effect.

_____
Managing Principal

Date: _____

Joint Venture Address:

_____

_____

_____

END OF SECTION

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SECTION 00530

CERTIFICATE OF AUTHORIZATION

(If Contractor is a Limited Liability Company (LLC))

STATE OF CALIFORNIA

COUNTY OF SUTTER

The undersigned, being (a/the) duly elected, qualified and active (member/manager) of _____, a California limited Liability Company (hereinafter "the Company") does hereby certify that:

1. The Articles of Organization of the Company were duly filed with the Office of the Secretary of State of the State of California on _____, and the Articles of Organization have not been (further) amended.

2. There exists an Operating Agreement of the Company and that the said Operating Agreement has not been amended or repealed and that the said Operating Agreement remains in full force and effect as of this date.

3. Neither the Articles of Organization nor the Operating Agreement (as amended) require any further act to be taken or a meeting to be held by its members other that as follows:

4. All said requirements, whether as contained in the Articles of Organization or in the Operating Agreement or by operation of law as to the transaction of _____, 20___ have been met.

5. The following person or persons has/have been duly authorized by the Company to execute the Agreement dated_____, 20__, to the City of Yuba City ("City") and this Company and that his/her execution of all documents in connection with said transaction and that the signature appearing to the right of their name(s) is his/her genuine signature.

NAME	OFFICE HELD	SIGNATURE
_____	_____	_____
_____	_____	_____
_____	_____	_____

END OF SECTION

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CITY OF YUBA CITY
PUBLIC WORKS DEPARTMENT

FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that, WHEREAS, the City Council of the City of Yuba City, CA ("Obligee or City"), Sutter County, State of California, has awarded to _____, hereinafter designated as the "Principal," a Contract, the terms and provisions of which Contract are incorporated herein by reference, for constructing the **City of Yuba City, Septage Hauling and Receiving Station, Contract No. 25-04,** and

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract;

NOW, THEREFORE, we the Principal, and _____, as Surety, are held and firmly bound unto the City of Yuba City, CA, Sutter County, CA, in the penal sum of: _____ ($_____), lawful money of the United States, being one hundred percent (100%) of the Contract amount, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT, if the above bounden Contractor, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alterations thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Agency, its directors, officers, employees and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the said Contract, the above obligation in above-stated amount shall hold good for a period of one (1) year after the recording of the notice of completion, during which time if the Contractor, its heirs, executors, administrators, successors or assigns shall fail to make full, complete, and satisfactory repair and replacements or totally protect the Agency from loss or damage made evident during the period of one (1) year from the date of recording of the notice of completion, and resulting from or caused by defective materials or faulty workmanship in the prosecution of the work done, the above obligation in the above-stated amount shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligation of the Surety hereunder shall continue so long as any obligation of the Contractor remains.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall, in any way, affect its obligations on this bond and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications. The Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

In the event suit is brought upon this bond by the Agency and judgment is recovered, the Surety shall pay all costs incurred by the Agency in such suit, including, but not limited to, administrative and consultant costs, and reasonable attorneys' fees to be fixed by the Court.

The address or addresses at which the principal and surety(ies) may be served with notices, papers and other documents under the California Bond and Undertaking Law (Code of Civil Procedure section 995.010 et seq.) is the following:

_____

_____

IN WITNESS THEREOF, the above bounded parties have executed this instrument under their several seals this day of _____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

	Principal:	_____
	Signature:	_____
	Name & Title:	_____
(Corp. Seal)	Address:	_____
	Surety:	_____
	Signature:	_____
	Name & Title:	_____
(Corp. Seal)	Address:	_____

Attorney in Fact: _____

Surety shall submit the following documents along with this Faithful Performance Bond:

1. Verification that Surety is admitted to transact surety business in the State of California; and

2. Copy of Surety's Certificate of Authority, issued by the Insurance Commissioner of the State of California, along with a statement that said Certificate has not been surrendered, revoked, cancelled, annulled or suspended.

Approved as to legal form: _____, City Attorney

(NOTE: The date of this bond must not be prior to date of Contract. If Contractor is a partnership, all partners should execute bond.)

END OF SECTION

CITY OF YUBA CITY
PUBLIC WORKS DEPARTMENT

PAYMENT BOND
(LABOR AND MATERIAL BOND)

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and _____, as Surety, are held and firmly bound unto the City of Yuba, any and all persons named in California Civil Code Section 9100 as Claimants, whose claim has not been paid by the Contractor, in the aggregate total of _____ ($_____) (being 100% of the Contract amount) for payment whereof, well and truly to be made, said Principal and Surety bond themselves, their heirs, administrators, successors and assigns, jointly and severally, firmly by these presents. In case suit is brought upon this bond, the Surety will pay reasonable attorney's fees to the City of Yuba in an amount to be fixed by the court.

The condition of the foregoing obligation is such that, whereas the Principal has entered into a Contract dated _____, 2026, with the City of Yuba City, CA ("Owner") to do the following work, to wit: **City of Yuba City, Septage Hauling and Receiving Station, Contract No. 25-04.**

NOW, THEREFORE, if the Principal or its/his/her subcontractors fail to pay i) any of the persons named in Section 9100 of the Civil Code of the State of California; ii) amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the Principal or its/his/her subcontractor pursuant to Section 13020 of the Unemployment Insurance Code of the State of California, with respect to such work and labor; or iii) for any other work, materials, services, provisions, provender, or other supplies, or for the use of implements of machinery used in, upon, or about the performance of work to be done; then the Surety will pay for the same, in the amount not exceeding the sum specified in this bond, and also, in case suit is brought upon this bond, a reasonable attorney's fee, to be fixed by the court.

This bond shall inure to the benefit of any person named in Section 9100 of the Civil Code of the State of California so as to give a right of action to them or their assignees in suit brought upon this bond. Moreover, if the Owner or any entity or person entitled to file stop payment notices is required to engage the services of an attorney in connection with the enforcement of this bond, the Contractor and Surety shall be liable for the reasonable attorney's fees incurred, with or without suit, in addition to the above sum.

This bond is executed and filed to comply with the provisions of the act of Legislature of the State of California as designated in Civil Code Section 9550 to 9566, inclusive, and all amendments thereto. The Surety, for value received, hereby stipulates and agrees to waive the benefits of California Civil Code Sections 2819 and 2845. The Surety hereby waives notice of any change, alteration or addition to the Contract or to related subcontracts, purchase orders and other obligations, including but not limited to changes of time. The Surety consents to all terms of the Contract, including provisions on changes to the Contract Documents. No extension of time, Change Order, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate Surety on this Payment Bond or in any way affect the obligations of Surety on this Payment Bond.

Any proceeding, legal or equitable, under this Payment Bond shall be instituted in any court of competent jurisdiction in Sutter County, California.

IN WITNESS THEREOF, the parties have executed this instrument under their several seals this _____ day of _____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

	Principal: _____
	Signature: _____
	Name & Title: _____
(Corp. Seal)	Address: _____
	Surety: _____
	Signature: _____
	Name & Title: _____
(Corp. Seal)	Address: _____

Attorney in Fact: _____

Surety shall submit the following documents along with this Faithful Performance Bond:

1. Verification that Surety is admitted to transact surety business in the State of California; and

2. Copy of Surety's Certificate of Authority, issued by the Insurance Commissioner of the State of California, along with a statement that said Certificate has not been surrendered, revoked, cancelled, annulled or suspended.

Approved as to legal form: _____, City Attorney

(NOTE: The date of this bond must not be prior to date of Contract. If Contractor is a partnership, all partners should execute bond.)

END OF SECTION

SECTION 00560

CONTRACTORS CERTIFICATION REGARDING WORKER'S COMPENSATION

Contract with the City of Yuba City for the construction of:

PROJECT TITLE: SEPTAGE HAULING AND RECEIVING STATION

PROJECT NO.: 25-04

Labor Code §3700:

> "Every employer, except the State, shall secure the payment of compensation in one or more of the following ways:
>
> (a) By being insured against liability to pay compensation by one or more insurers, duly authorized to write compensation insurance in this State.
>
> (b) By securing from the Director of Industrial Relations a certificate on consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to employees."

I am aware of the provisions of §3700 of the Labor Code that require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance. In accordance with the provisions of that code, I will comply with such provisions before commencing the performance of the Work of this Contract.

Contractor: _____

By: _____

Title: _____

Dated: _____

(Labor Code §1861 requires that this Contractor certification must be signed and filed by the Contractor with the public agency prior to performing any Work.)

END OF SECTION

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SECTION 00580

SAMPLE ESCROW AGREEMENT
FOR
SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between: City of Yuba City whose address is 1201 Civic Center Boulevard, Yuba City, CA, 95993, hereinafter called **"City"**, and _____ whose address is _____ hereinafter called **"Contractor"**, and _____ whose address is _____ hereinafter called **"Escrow Agent"**.

For the consideration hereinafter set forth, City, Contractor, and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by City pursuant to the Construction contract entered into between the City and Contractor for the **Septage Hauling and Receiving Station, Project No. 25-04** in the amount of $_____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the contractor, the City shall make payment of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the City within ten (10) days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the City and Contractor. Securities shall be held in the name of _____ and shall be designated the Contractor as the beneficial owner.
2. City shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that Escrow Agent holds securities in the form and amount specified above.
3. When the City makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of Contractor until the time that the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the City pays the Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the City. The City, Contractor, and Escrow Agent shall determine these expenses and payment terms.
5. The interest earned on the securities or money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to City.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from City to Escrow Agent that City consents to the withdrawal of the amount sought to be withdrawn by Contractor.
7. City shall have a right to draw upon the securities in the event of default by Contractor. Upon seven (7) days written notice to Escrow Agent from City of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by City.
8. Upon receipt of written notification from City certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payment of all fees and charges.
9. Escrow Agent shall rely on the written notifications from the City and the Contractor pursuant to Sections (5) through (8), inclusive, of this Escrow Agreement, and the City and the Contractor shall

hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth above.

10. The names of the persons who are authorized to give written notice or to receive written notice on behalf of City, Contractor and Escrow Agent in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of City:

_____
Signature

_____
Name

_____
Title

_____
Address

On behalf of Contractor:

_____
Signature

_____
Name

_____
Title

_____
Address

On behalf of Escrow Agent:

_____
Signature

_____
Name

_____
Title

_____
Address

At the time the Escrow Account is opened, City and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Escrow Agreement.

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on _____.

CITY:

_____
Signature

_____
Name

_____
Title

_____
Address

CONTRACTOR:

_____
Signature

_____
Name

_____
Title

_____
Address

END OF SECTION

SECTION 00600
NOTICE TO PROCEED

Date

Contractor Name
Contractor address
City, State, Zip Code

Subject: Notice to Proceed – Septage Hauling and Receiving Station

You are notified that the Contract Times under the above contract will commence to run on **(date of first day of work)**. You are to start performing your obligations pursuant to the Contract Documents.

Before you may start any Work at the Site, you must:

1. Submit certified Safety Program as required by California Code of Regulations, Title 8, General Industry Safety Orders and other related regulatory requirements.
2. Submit copies of applicable permits (Example: Cal DOSH Annual Trench Excavation Permit). Submit approved fire protection plan, if applicable.
3. Attend preconstruction conference.

This Notice is provided in duplicate original. Please acknowledge this Notice below and return one original to the City.

Sincerely,

_____
Joshua Wolffe,
Director of Public Works

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by **Contractor name**, this _____ day of _____ 2026.

By: _____
Signature

_____
Name and Title (printed)

END OF SECTION

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SECTION 00680

FINAL CLOSEOUT AGREEMENT
AND RELEASE OF CLAIMS

THIS FINAL CLOSEOUT AGREEMENT AND RELEASE OF CLAIMS, hereinafter referred to as “Agreement and Release”, is made and effective this _____, _____ 20___ by and between the City of Yuba City, hereinafter referred to as "City or Owner"; and _____ hereinafter referred to as "Contractor'.

IT IS HEREBY ACKNOWLEDGED AND MUTUALLY AGREED BETWEEN THE OWNER AND CONTRACTOR AS FOLLOWS:

1. The Owner and Contractor entered into an Agreement (the "Principal Agreement") dated _____, 20__, whereby Contractor was to construct Project described as Septage Hauling and Receiving Station. Pursuant to the terms of said Agreement, the Owner was to pay Contractor the lump sum of ***Original Contract Amount here*** and to complete performance of said Agreement within a period of Original ***Number of Contract*** Days, to wit: ***Final Completion Date Here*** subject only to modification as set forth in written change orders between the parties.

2. The Owner and Contractor hereby agree that the Project has been completed by Contractor and this Agreement and Release sets forth all relevant facts pertaining to the respective rights and obligations of the parties for the termination of the Principal Agreement.

3. The Owner and Contractor agree the final adjusted Contract price, time of performance and balance payment due to Contractor for said Septage Hauling and Receiving Station is determined as follows:

Original Contract Amount Original Contract Completion Times as defined in Sections 00510 and 00800:	$_____	
Project Substantial Completion		_____days
Project Final Completion		_____days
Final Contract Amount as adjusted by Change Orders No. 1 through No. __. Final Contract Completion Times as adjusted by Change Orders No. 1 through No. __:	$_____	
Project Substantial Completion		_____days
Project Final Completion		_____days
Liquidated Damages assessed Contractor pursuant to Contract Agreement and Supplementary General Conditions as calculated below: Show L.D. calculations here if applicable.	$_____	
Total Payments made to Contractor to date	$_____	
Balance due on Contract (including retention withheld)	$_____	

4. That subject to the provisions of this Agreement and Release, Owner will forthwith pay to Contractor the sum of $_____Dollars and_____ Cents ($_____) under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with Owner as of the date of such payment. The retention amount held by the Owner will be released to Contractor at the expiration of the lien period plus five (5) days (for a total of thirty-five (35) calendar days after recording a Notice of Completion by the Owner in the office of the County Recorder).

As a condition precedent to such payment being due, the Contractor shall provide the Owner with unconditional waivers and releases upon final payment from each Subcontractor and Supplier providing Work under the Contract (per Civil Code section 8138) and a conditional waiver and release upon final payment on behalf of the Contractor (per Civil Code section 8136), in a sum not greater than the amount due so as to enable Owner to make the payment. The amounts withheld by Owner pursuant to stop notices will be released in accordance with agreement of the parties, orders of a court, posting of stop notice release bonds, in compliance with statutory legal procedures, or upon presentation of stop notice releases. Notwithstanding the aforementioned mutual releases, nothing contained this Agreement and Release shall waive or alter the rights, privileges and powers of the Owner or the duties, liabilities and obligations of the Contractor and its surety under this Contract and/or California law, including in respect to Contractor's Warranty nor with respect to other warranties made by Contractor; nor shall anything contained herein waive rights relating to claims by Owner pertaining to or arising from latent defects, indemnity, or negligent or intentional misrepresentations on the part of the Contractor. Upon acceptance of the Project by the Owner, and execution of this Agreement and Release, the Owner agrees to immediately file and record a Notice of Completion with the County Recorder in order to begin the running of the statutory lien period.

5. The Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against Owner arising from the Contract, except for the claims described in paragraph 6 below. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against the Owner, and all if its agents, employees, consultants, inspectors, representatives, assignees and transferees, except for the Disputed Claims set forth in paragraph 6 below.

6. The following claims submitted under Section 00700- Article 11, Protests, Disputes and Claims, are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

Claim No.	Date Submitted	Brief Description of Claim	Amount of Claim

7. Consistent with California Public Contract Code §7100, Contractor hereby agrees that in consideration of the payment set forth in paragraph 3 above, Contractor hereby releases and forever discharges Owner, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract

8. The Contractor agrees that Contractor shall immediately defend, indemnify and hold harmless Owner, any Owner's Representatives, Engineer, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor's suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all

labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Disputed Claims set forth in paragraph 6 above.

9. That Contractor hereby waives the provisions of California Civil Code §1542, which provide as follows:

> *A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release, if known by him or her, would have materially affected his or her settlement with the debtor or released party.*

10. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall, be enforceable.

11. The Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full: right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.

12. All rights of Owner shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

The undersigned acknowledge and represent that they have read this Agreement and Release in full and understand and voluntarily consent and agree to each and every provision contained herein. The undersigned further declare and represent that no promise, inducement or agreement, not herein expressed, has been made to the undersigned and that this Agreement and Release contains the entire agreement among the parties hereto and the terms of this Agreement and Release are contractual. The persons executing this Agreement and Release represents and warrants to the other party that the execution and performance of the terms of this Agreement and Release have been duly authorized by all requisite corporate, partnership, individual, or other entity requirements and that said persons have the rights, power and legal capacity and authority to execute and enter into this Agreement and Release.

IN WITNESS WHEREOF, Owner and Contractor have caused this Agreement and Release to be executed the day and year first above written.

Owner

City of Yuba City
A Public Entity

By:_____

_____
Name

_____
Title

ATTEST:

By:_____

_____
Name

_____
Title

_____
CONTRACTOR'S NAME

_____
STATE OF CALIFORNIA
CONTRACTOR'S LICENSE NO.
and CLASSIFICATION

By_____
(Authorized Signature)

_____
LICENSE EXPIRATION DATE

_____
Name

_____
Title

_____
TYPE OF ORGANIZATION

ATTEST:

_____
STATE OF INCORPORATION

By_____

_____
NAME

(SEAL)

_____
TITLE
(If Corporation, must be attested by Corp Secretary)

END OF SECTION

SECTION 00700

GENERAL CONDITIONS

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ARTICLE 1 - GENERAL PROVISIONS

1.01 ABBREVIATIONS

A. References in the General Conditions are sometimes referred to only by corresponding abbreviation. Not all abbreviations are listed and not all listed abbreviations are used. Unless otherwise specifically defined in the General Conditions, when the following abbreviations are used, the intent and meaning will be interpreted as follows:

1. CM – Construction Manager.
2. DE- Design Engineer.
3. LDs – Liquidated Damages.
4. NTP – Notice to Proceed.
5. QC – Quality Control.
6. RFI – Request for Interpretation.
7. SOV – Schedule of Values.

1.02 DEFINITION OF WORDS AND TERMS:

A. Where used in the Contract Documents, the following words and terms shall have the meanings indicated. The meanings shall be applicable to the singular, plural, masculine and feminine of the words and terms. For the sake of convenience, the masculine/feminine pronoun may be used to designate who performs the work and for other purposes and, in all case, applies equally to all persons.

B. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered”, “as directed” or terms of like effect or import to authorize an exercise of professional judgment by the City, Construction Manager or Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of the City, Construction Manager or Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to City, Construction Manager or Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority contrary to the provisions of the Contract Documents.

C. Wherever in the Contract Documents, the following terms, or pronouns in place of them are used, the intent and meaning will be interpreted as follows:

1. **Acceptance, Final Acceptance** - The formal acceptance by the City Council, or as delegated by the City Council, of the Completion of the entire Work of the Contract, which to City’s knowledge has been performed in accordance with the requirements of the Contract Documents and all Approved modifications thereof.
2. **Acts of God** - "Acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves
3. **Addendum** - A written change to the Contract Documents issued before the time fixed for the opening of Bids.
4. **Agreement** - The written and signed document known as Section 00510, Agreement. (Sometimes also referred to as Contract Agreement or Contract.).
5. **Allowance** - “Allowance” shall mean an amount of money set aside under the Contract for a special purpose identified and defined in the Contract Documents.
6. **Alternative** - Refer to Approved Equal and Substitution.
7. **Applicable Laws** - All laws, codes, ordinances, rules and regulations of governmental authorities having jurisdiction over the Site and/or the Work.

8. **Application for Payment** - The form acceptable to City's Representative which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
9. **Approved, Directed, Ordered, or Required** - Whenever these words or their derivatives are used, it is the intent, unless otherwise clearly stated, that written approval, acceptance, or direction by the City's Representative or City's Project Manager is required.
10. **Asbestos** - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
11. **As-Built Documents** - A set of the Contract Documents including Drawings and Specifications updated on a continuous basis to indicate conditions encountered and the final configuration of a Project as it was constructed. May also be referred to as Project Record Documents. As-Built Documents must include all Addenda, Changes, Additional Detailed Instructions or other clarifications to the Contract Documents and dimensional information showing the actual locations of Installed components of the Work.
12. **Award Date** - Date of action taken by the City Council accepting Contractor's Bid and authorizing its designee to execute the Agreement. (Sometimes also referred to as Award.)
13. **Bid Alternate** – Additive and/or deductive Bid items identified as such on the Bid Form.
14. **Bid** - The offer of a Bidder to perform the Work pursuant to a completed prescribed Bid Form, properly executed and guaranteed, and timely submitted.
15. **Bidder** - Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work contemplated, acting directly or through a duly authorized representative.
16. **Bid Forms** - The approved bid forms upon which City requires a formal Bid be prepared and submitted for the Work.
17. **Bidder's Security** - The cash, cashier's check, certified check, or Bidder's bond accompanying the Bid submitted by the Bidder as a guaranty that the Bidder will enter into a Contract with City for the performance of the Work of the Contract is awarded to the Bidder.
18. **Business Day** - "Business Day" means any day when the office of the of the City is open for business.
19. **Caltrans**- The California Department of Transportation.
20. **Change Order** - A document, which is signed as recommended by the Construction Manager, accepted by the Contractor, and accepted by an authorized representative of the City, which authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.
21. **City** - City means the City of Yuba City, in the State of California.
22. **City's Representative** - The person named in Section 00510, Agreement, whose authority includes but is not limited to the authority to approve Addenda, Change Orders, Payment Requests, Milestone and Project Completion dates(s).
23. **Claim** - A separate unresolved Dispute by the Contractor for: (A) a Contract Time extension, (B) payment of money or damages arising from Work done by, or on behalf of, the Contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the City.
24. **Clarification Letter** - A Clarification Letter is issued by the Construction Manager to address the clarification of Contract issues raised by the Construction Manager, Design Engineer, or City.
25. **Completion** - Acceptance of the Work.
26. **Construction Manager (CM)** - A consultant firm or such other individual or entity designated, in writing, by the City to act as its representative at the construction Site and to perform administrative functions relating to this Contract. The Construction Manager may also furnish inspection services as provided by the Contract. All contact by the Contractor with the City shall be through the Construction Manager.

27. **Consultants** - Architects, Engineers, Construction Managers and other professionals engaged to provide the City with professional services for the Project.
28. **Contract** - The written Agreement on the City's form encompassing the performance of the Work and the furnishing of labor, materials, tools, and equipment in the construction of the Work. Synonymous with "Agreement", and "Contract Agreement".
29. **Contract Bonds** - The Performance Bond and the Payment Bond for Public Works.
30. **Contract Documents** - The words "Contract Documents" shall mean any or all of the items listed in Section 00510, Agreement, Article 2, Contract Documents.
31. **Contract Price (also referred to as Contract Amount or Contract Sum)** - The Contract Price is stated in the Agreement and, including authorized adjustments by Change Order, is the total amount payable by City to the Contractor for performance of the Work pursuant to the Contract Documents.
32. **Contract Time(s)** - Unless otherwise provided, the Contract Time is the period of time, including authorized adjustments, identified in the Contract Documents for Completion of the Work or a designated portion of the Work.
33. **Contractor** - The individual, partnership, corporation or limited liability company who enters into the Contract for the performance of the Work. The term "Contractor" means the Contractor or his authorized representative. The term "Contractor" also may include subcontractors, sub-tier subcontractors, consultants, equipment and material suppliers, and their employees. Sometimes also referred to as "Prime Contractor" or "General Contractor")
34. **Contractor's Authorized Representative** – The Contractor's authorized representative(s) who has the authority to represent and act for Contractor.
35. **Contractor's Plant and Equipment** - The equipment, material, supplies and all other items, except labor, brought onto the Site by the Contractor to carry out the Work, but not to be incorporated in the Work.
36. **Controlling Operation**- A Controlling Operation means an item of the Work on the Project's critical path whose duration time directly affects the date that the entire Work can be completed.
37. **Coordination Drawings** - Contractor prepared drawings submitted by Contractor to City to demonstrate the coordination of methods, materials, equipment, plans, or sequence the Contractor proposes to use when limited space is available for installation of different components, coordination is required for installation of Products and materials Fabricated by separate entities, or the relationship of components is shown on separate Shop Drawings or Submittals. Coordination Drawings are not considered Contract Documents.
38. **Corrective Work Item List** - List of incomplete items of work, incomplete administrative requirements and items of work which are not in conformance with the Contract, prepared by the Construction Manager and issued to the Contractor as an attachment to the response to the Contractor's notification of Substantial Completion.
39. **Cost Proposal** - A proposed cost made by the Contractor to the City to add, delete or change the Work based on a City Request for Proposal (RFP).
40. **County** – The County of Sutter, a political subdivision of the State of California.
41. **Critical Path** - The path(s) of activities on the current updated version of the Official Progress Schedule without any Total Float Time.; all references in the Contract Documents to the Critical Path mean the longest path of dependent activities within the current updated version of the Official Progress Schedule that determine when the Work of a Milestone or the entire Work of the Project will be complete. A Critical Path Method (CPM) schedule is in the form of precedents, networks, and time sequences.
42. **Critical Supply Shortage** -- An unusual shortage in materials that is (a) supported by documented proof that Contractor made every effort to obtain such materials from all available sources; (b) such shortage is due to the fact that such materials are not physically available from single or multiple sources or could have been obtained only at exorbitant prices entirely inconsistent with current and standard rates taking into account the quantities involved and the usual industry practices in obtaining such quantities; and (c) such shortages and the difficulties in obtaining

alternate sources of materials could not have been known or anticipated by Contractor at the time it submitted its bid or entered the Contract. Market fluctuations in prices of materials, whether or not resulting from a Force Majeure Event, does not constitute a Critical Supply Shortage.

43. **Date of Acceptance** - The date that the Notice of Completion is filed by the City.
44. **Day(s)** - The word "Days" shall mean calendar days, including legal holidays, Saturdays and Sundays, unless specifically designated otherwise. The day shall be 24 hours measured from midnight to the next midnight.
45. **Defective** - The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
    a. does not conform to the Contract Documents, or
    b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or
    c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by City at Substantial Completion in accordance with the Contract Documents).
46. **Demobilization** –Demobilization includes: movement off the Project Site, upon completion of the Work, of personnel, equipment, temporary offices, buildings and other facilities, supplies and incidentals; and submission of final Project submittals.
47. **Design Engineer** - The engineer, architect or specialty design consultant designated by the City to have design control over the Work or a specified portion of the Work, acting either directly or through duly authorized representatives. Such representatives shall act within the scope of the particular duties delegated to them. The Design Engineer may also furnish inspection services as provided by the Contract. The Design Engineer may be also be referred to as “Engineer” if the definition is used in a Design Engineer role and capacity.
48. **Direct** - Action of the City or Construction Manager by which the Contractor is ordered to perform or refrain from performing work under the Contract.
49. **Director** - The definition contained in Section 1-1.15, "Director," of the Standard Specifications is hereby deleted and replaced with the following: the City Council or members thereof.
50. **Dispute** - A written disagreement submitted by the Contractor seeking adjustment of Contract terms, payment of money, extension of Contract Time or other relief with respect to the terms of the Contract. A Dispute is not a Claim.
51. **Drawings** - The graphic and pictorial portions of the Contract Documents, illustrating the design, character, location, and dimensions of the Work to be performed, generally including but not limited to, elevations, sections, details, schedules, General Notes, specific notes, and diagrams. Synonymous with “Contract Drawings” and “Plans”.
52. **Easements** - A recorded document in which the land owner gives the City permanent rights to construct and maintain water mains, sanitary sewers, storm drains and/or facilities across private property.
53. **Emergency** – A sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or essential public services.
54. **Engineer** - The Engineer shall mean the City’s Director of Public Works and Development Services and other City Representative(s) who have been duly authorized to exercise control and supervision of the Work. Engineer may also be referred to as “City Engineer”.
55. **Equipment (Construction)** - All machinery and equipment, together with the necessary supplies for upkeep and maintenance, including tools and apparatus necessary for the proper construction and acceptable completion of the Work contemplated. (Installation) - All material or articles used in equipping a facility or apparatus required to fulfill a functional design.
56. **Execution** - Field or Site performance, workmanship, installation, erection, application, field fabrication, quality control, and protection of installed products on the Site.

57. **Extra Work** - New or unforeseen work, or added work of a different character or function and for which no basis for payment is prescribed in the Contract Documents; or that involves revisions of the details of the Work in such a manner as to render inequitable payment under items upon which the Contractor bid in its bid; or that work to be done under “stipulated prices” as given in the Bid Schedule of Prices.
58. **Fabricated** - Specifically assembled or made out of selected materials to meet Project specific design requirements.
59. **Field Directive** - A Field Directive (FD) is used for providing written direction to the Contractor to perform work which: a) directs the Contractor to proceed with work that the Construction Manager has not recognized as extra work, b) directs the Contractor to proceed with work that the Construction Manager has determined is extra work but costs have not been determined or are difficult to determine by the Construction Manager. Also referred to as a “Directive”.
60. **Field Order** - A written instruction given to the Contractor authorizing work that is a change to the scope of work carried out on a time and material basis or a lump sum cost agreed to between City and Contractor.
61. **Final Acceptance** - Action taken by the City Council, or as delegated by the City Council, accepting the Work as fully completed.
62. **Final Completion** - The date when the Work is 100% complete, including completion and acceptance of all punch list corrections, as certified by the Construction Manager.
63. **Final Inspection List** - List of materials, equipment, workmanship, or administrative requirements which are not in conformance with the Contract. The list shall be prepared by the Construction Manager and submitted to the Contractor following the Contractor’s notice of completion of the Work, including all items on the Punch List.
64. **Force Account** - The method of performing Work by or on behalf of Contractor on a time, materials and equipment basis.
65. **Force Majeure Event**- An event that materially affects a party’s performance and is one or more of the following: (1) Acts of God or other natural disasters occurring at the Site; (2) terrorism or other acts of a public enemy; (3) orders of governmental authorities (including, without limitation, unreasonable and unforeseeable delay in the issuance of permits or approvals by governmental authorities that are required for the Work); (4) pandemics, epidemics or quarantine restrictions; (5) strikes and other organized labor action occurring at the Site and the effects thereof on the Work, only to the extent such strikes and other organized labor action are beyond the control of Contractor and its Subcontractors, of every tier, and to the extent the effects thereof cannot be avoided by use of replacement workers; and (6) a Critical Supply Shortage. For purposes of this section, “orders of governmental authorities,” includes ordinances, emergency proclamations and orders, rules to protect the public health, welfare and safety, and other actions of the City in its capacity as a municipal authority.
66. **Furnish** - The word “furnish” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
67. **General Conditions** - Sections 00700, General Conditions, and 00800, Supplementary General Conditions, which form the part of the Contract Documents setting forth legal and contractual instructions to the Contractor and general clauses that establish how the Project is to be administered.
68. **General Requirements** - Division 1, GENERAL REQUIREMENTS, which forms the part of the Contract Documents establishing special conditions or requirements peculiar to the Work and supplementary to the General Conditions.
69. **Governing Body** - The City of Yuba City, City Council.
70. **Governmental Agencies** - Whenever, in the Contract Documents, reference is made to any governmental agency or officer, such reference will be deemed made to any agency or officer acting in accordance with law to the power, duties, jurisdiction, and authority of the agency or officer mentioned.

71. **Guarantee** - A promise or assurance given by one party to a second party that a third party's obligations will be fulfilled (i.e., Contractor agrees to guaranty the Work performed by one of its Subcontractors to the City). (Also sometimes referred to as Warranty/Guarantee)
72. **Hazardous Waste** - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time, or any other material with Hazardous Waste requirements.
73. **Herein** - Refers to information presented in the Contract Documents.
74. **Hold Harmless** - Agreement by one (1) party to indemnify and defend a second party when the second party is sued by a third party as a result of the first party's actions or inactions.
75. **Holidays** - Legal holidays shall include the following holidays designated by the City: January 1- New Year's Day, Third Monday in January- Martin Luther King Jr. Day, Third Monday in February- President's Day, Last Monday in May- Memorial Day, July 4- Independence Day, First Monday in September- Labor Day, November 11- Veterans Day, Thanksgiving Day, the day after Thanksgiving and December 24 & 25.
76. **Incomplete Work** - Work required by the Contract Documents that is not yet installed.
77. **Inspector** – Inspector shall mean an engineering or construction inspector acting within the authorized scope of the particular duties and authority delegated to such inspector by the City. Inspector may include the person(s), firm(s), or agency(ies) employed by the City to perform inspection during construction of the Work, under the direction of the Construction Manager. It shall also mean any representative of the City who will perform inspections of the Work for code compliance and quality assurance reporting in addition to those inspections performed by the Engineer. Said inspector may be the Construction Manager or may be another representative of the City.
78. **Install** - The word "install" when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment, complete and ready for intended use. Synonymous with "Provide" for the purposes of this Contract.
79. **Laboratory** - Any laboratory authorized or accepted by City to test materials and Work involved in the Contract.
80. **Laws and Regulations; Laws or Regulations** - Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
81. **Liens** - Charges, security interests, or encumbrances upon Project funds, real property or personal property.
82. **Liquidated Damages** - The amount prescribed in the Contract Documents to be paid to City or to be deducted from any payments due or to become due Contractor for each Day's delay in completing the whole or any specified portion of the Work, beyond the time(s) allowed in the Contract Documents plus approved time extensions, or as otherwise used in provisions for liquidated damages for public hardship.
83. **May** - "May," wherever or in whatever manner used, refers to permissive actions.
84. **Milestone** - A specific portion of the Work identified in the Contract Documents as a Milestone.
85. **Milestone Completion** - The date determined by the City when the Work of a Milestone is complete. Milestone Completion does not constitute Acceptance but does establish the completion date of the Milestone for the purpose of assessment of Liquidated Damages, if any, associated with the Milestone.
86. **Milestone Duration** - The time allowed in the Contract Documents, plus approved time extensions, for completion of the work of a Milestone.
87. **Must -** See definition of "Shall".
88. **Named Products** - Products identified in the Contract Documents by Manufacturer's product name. Named Products may include Manufacturer's make or model number or other designation.
89. **Notice Inviting Bids** - The Section inviting sealed Bids for the Work. See Section 00100, Notice Inviting Bids.

90. **Notice of Award** - The document from the City notifying Contractor that the City Council accepted Contractor's Bid and authorized the General Manager to execute the Agreement.
91. **Notice of Completion** - A document executed by the City, as authorized by the City Engineer and filed with the County Recorder, signifying that the Contract has been Completed and Accepted.
92. **Notice to Proceed** - The written notice issued by City's Representative to Contractor whereby the Contractor is notified of the official construction Contract start date and is authorized to proceed with the Work. See Section 00600, Notice to Proceed. Unless otherwise specified in the Contract Documents or Directed by written Order of City's Representative, the Contractor must begin Work within fourteen (14) Days following the start date for the Work as stated in the Notice to Proceed.
93. **Operational Acceptance** - Written notice by the Construction Manager accepting the Work, or portions of the Work, as operationally complete. Used for the purpose of placing equipment or facilities in service before all of the Contract Work is completed, thus affording the City beneficial use of the equipment or facilities
94. **Paragraph** - For reference or citation purposes, a paragraph shall refer to the paragraph, or paragraphs, called out by paragraph number and alphanumeric designator.
95. **Party** - The City or the Contractor individually, and "Parties" shall mean the City and the Contractor collectively.
96. **Perform** - Refer to "Provide."
97. **Person** - The term, person, includes firms, companies, corporations, partnerships, and joint ventures.
98. **Plans** - See Drawings
99. **Prejudiced** - As used herein, the term "Prejudiced" shall include, but is not limited to, material interference with the City's timely consideration of action to prevent increases in the cost or time required to perform the Work, ability to monitor the Contractor's increased costs resulting from the situation, to timely marshal facts, and to timely plan its affairs.
100. **Products** - Materials, equipment, systems, shop fabrications, mixtures, and source controls.
101. **Progress Schedule** - A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
102. **Project** – The total construction of which the Work to be provided under the Contract Documents, may be the whole, or a part thereof as indicated elsewhere in the Contract.
103. **Product Data** - Illustrations, Manufacturer's literature, standard schedules, performance charts, instructions, brochures, diagrams and other information submitted by the Contractor to illustrate materials or equipment for some portion of the Work. Product Data are not considered Contract Documents.
104. **Punch List** – "Minor" Work that remains to be completed before the City's Representative will issue a Milestone Completion Letter. Punch List work includes minor architectural cosmetic work to correct minor flaws or deficiencies related to painting, trim, ceiling tile, joinery work or other architectural features; minor adjustments to door hardware; minor cleaning to include scuff marks and small stains; correction of minor mechanical or electrical deficiencies such as tightening of plumbing fixtures and connections, affixing electrical cover plates, minor adjustments to HVAC controls and settings; minor corrections to landscaping; etc. Punch List does not include "Major" Work that would prevent City from occupying and using the facility for its intended use.
105. **Quality** - Conformance to the requirements established by the Contract Documents
106. **Quality Control (QC)** - The Contractor's system in place during execution of the Work, to manage and control its own, and its Supplier's and Subcontractor's activities to comply with the requirements of the Contract Documents.
107. **Reference Specifications** - Those standards, rules, method of tests or analysis, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the contract documents. These refer to the current edition of amendments in effect at the date of Section 00100, Notice Inviting Bids, unless specifically referred to by edition, volume or date.

108. **RFI or Request for Interpretation/Information** - A written request by the Contractor for information or clarification regarding the requirements of the Contract Documents.
    a. RFI's are not to be used in place of a Substitution.
    b. RFI's are not to be used in lieu of a Corrective Action Plan, described in Article 14 of this Section.
    c. Requests for Information must be numbered sequentially and presented in a format furnished by, or acceptable to, the City's Representative. The City's response to an RFI does not change the requirements of the Contract Documents, Contract Time, or Contract Sum.
109. **RFP or Request for Proposal** - A request for a proposed cost made to the Contractor by the City to add, delete or change the Work. RFP's shall not be deemed to be directions to proceed with any addition, deletion or change to the Work. RFP's may also be referred to as "Request for Quotation".
110. **Retention** - A defined percentage of the Contract Sum held by the City pending Completion of the Work, or any portion of the Work.
111. **Salvage** - All items specified to be salvaged shall be carefully removed so as not to damage the item, and neatly stockpiled at the construction Site by the Contractor. The exact location to stockpile items shall be determined by the Construction Manager. The Construction Manager shall then make a determination as to which items are to be retained by the City. All other items shall be properly disposed of at no additional cost to the City.
112. **Samples** - Physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be evaluated.
113. **Schedule of Values** – A document submitted by the Contractor to the City reflecting the portions of the Contract Sum allotted for the various parts of the Work. (Sometimes also referred to as "Cost Breakdown.")
114. **Shall** - Refers to actions entered into by the Contractor or the City as a covenant with the other party to do or to perform the action.
115. **Shop Drawings** - Drawings, diagrams, schedules, and other data specially issued for the Work by the Contractor or a Subcontractor, Sub-Subcontractor, and Suppliers to demonstrate and/or illustrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for some specific portion of the Work. Shop Drawings are not considered Contract Documents.
116. **Site** - Lands or areas indicated in the Contract Documents as being furnished by City upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by City which are designated for the use of Contractor.
117. **Specifications** - The written directions, provisions and requirements pertaining to the materials to be provided and to the method and manner of performing the Work, including any Addenda and Approved revisions by City. (Also sometimes referred to as "Technical Specifications" or "Specs.")
118. **Standard Drawings, Standard Plans, Standard Specifications** – Unless specifically stated otherwise, the latest edition of the City's Standard Drawings, Standard Plans or Standard Specifications referenced in the Contract Documents.
119. **State of California Specifications** - The State of California Department of Transportation Standard Specifications in effect at the date of Section 00100, Notice Inviting Bids. Also referred to as State Standard Specifications and Caltrans Standard Specifications. Where the terms the "State" or the "Engineer" are used in the California Standard Specifications, they shall be considered as meaning the "City" or the "Engineer" as defined herein. Paragraphs of the California Standard Specifications on Measurement and Payment shall not apply.
120. **State** - The State of California.
121. **Stop Notice** - A legal remedy for subcontractors and suppliers who contribute to public works, but who are not paid for their work which secures payment from construction funds possessed by the City.

122. **Subcontractor** - A contractor, within the meaning of the provisions of Chapter 9 (commencing with §7000) of Division 3 of the Business and Professions Code, who contracts directly with the Contractor to perform any Work of the Project. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or its authorized representative.
123. **Subsubcontractor** - A contractor, within the meaning of the provisions of Chapter 9 (commencing with §7000) of Division 3 of the Business and Professions Code, that has a direct or indirect contract with a Subcontractor to perform any Work of the Project. The term Subsubcontractor is referred to throughout the Contract Documents as if singular in number and means a Subsubcontractor or an authorized representative thereof.
124. **Submittal** - Data or items required by the Contract Documents to be submitted by the Contractor to the City. Submittals demonstrate the method, materials, plan, or sequence the Contractor proposes to use to conform to the design concept expressed in the requirements of the Contract Documents. Submittals include but are not limited to Shop Drawings, Coordination Drawings, layouts, Progress Schedules, Substitution requests, Samples, mockups, catalogs, Product Data and literature, equipment data sheets, maintenance and operating data. Unless otherwise stated in the Contract Documents, Submittals are not considered Contract Documents.
125. **Substantial Completion** - Sufficient completion of the Project, or the portion thereof, to permit a utilization of the Project. Determination of substantial completion is solely at the discretion of the City. Substantial completion does not mean complete in accordance with the Contract nor shall substantial completion of all or any part of the Project entitle the Contractor to acceptance under the Contract.
126. **Substantial Completion Date** - Date when the City puts into service, the Project or that portion of the Project that has been determined to be substantially complete.
127. **Substitution** - A material and/or process offered by the Contractor in lieu of the specified material and/or process, and accepted by the City's Representative in writing as being equivalent (equal) to the specified material and/or process, such as an excepted or equal. (Also sometimes referred to as Product Substitution)
128. **Supplementary General Conditions** - That part of the Contract Documents which amends or supplements the General Conditions.
129. **Supplier** - A person or organization contracting with Contractor, a Subcontractor or a Sub-subcontractor to supply materials and/or equipment for the Work.
130. **Surety** - A company that provides Contractor's bonds for bidding, performance and payment and is admitted as a surety insurer as defined in §995.120(a) of the California Code of Civil Procedure.
131. **Surveyor** - A land surveyor licensed in the State of California.
132. **Total Float Time** - The time difference between the earliest start date and the latest start date, or between the earliest finish date and the latest finish date, of Project activities. (Also sometimes referred to as "slack time" or "Total Float" or "Float").
133. **Trade Names** - Where a certain product is called by its Trade Name, it is intended as a guide for type and quality.
134. **Typical Details** - Details of standard structures, devices or instructions referred to on the Plans and Specifications by title or number and developed by the Engineer.
135. **Unbalance Bid** - A Bid containing a combination of lump sum and unit price Contract Items where individual Contract Items contained in the bid do not reflect reasonable actual direct costs plus a reasonable proportionate share of the Bidder's anticipated indirect costs and profit.
136. **Underground Facilities** - All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
137. **Unilateral Change Order** – A Change Order issued by the City without the consent of the Contractor or signature of the Contractor.

138. **Unit Price Work** – Work to be paid for on the basis of unit prices.
139. **Utility** - Public or private fixed works for the transportation of fluids, gasses, power, signals, or communications.
140. **Warranty** - A Contractor's, Subcontractor's, Manufacturer's or material Supplier's promise or assurance, written or otherwise, that it's Products and services provided meet industry (implied) or contractual (the requirements of the Contract Documents) standards of performance. (Also sometimes referred to as Warranty/Guarantee.)
141. **Will** - See definition of "Shall".
142. **Work** - Any and all obligations, duties, and responsibilities necessary to complete the construction assigned to, or undertaken by, the Contractor pursuant to the Contract Documents including all labor necessary to produce such construction and all materials, equipment, and supplies incorporated or to be incorporated in the construction. Also, the completed construction or parts thereof required to be provided under the Contract Documents.
143. **Work Day** - A working day is defined as any day, except Saturdays, Sundays and City Legal Holidays. Any work scheduled by the Contractor on non-working days (Saturdays, Sundays, and City Legal Holidays) shall be verified with the City at least 72 hours in advance. Unless specifically provided for otherwise in the Contract Documents, the City shall be compensated for inspection work, at an hourly rate, for any work on non-working days and for overtime. A "working day" may also be referred to as a "business day".

1.03 CONTRACT DOCUMENTS- REPRESENTATIONS, CORRELATION AND INTENT

A. Upon Notice to Proceed, the Contractor may obtain from the City, free of charge, five (5) copies of the Drawings (half- size) and Specifications. Drawings and Specifications will include all changes made by Addenda issued during the bid period. The City will also provide one electronic copy of the Contract Documents in PDF format.

B. The Contractor shall keep on the Project Site a complete copy of the Conformed Drawings and Specifications and shall at all times give the Construction Manager and City's staff access thereto.

C. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The intent of the Contract Documents is to include all labor, materials, equipment, and all other items necessary for the proper execution and completion of the entire Work. Unless otherwise specifically noted, Contractor must provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and all other facilities and services necessary for the proper execution and completion of the Work.

D. Work not explicitly depicted or mentioned in any portion of the Contract Documents is nevertheless required if it is consistent therewith and is reasonably inferable therefrom as being necessary to produce the intended results.

E. Words and abbreviations having well known technical, trade or industry meanings are herein in accordance with such recognized meanings.

F. The intent of the Drawings specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.

G. The Contract Documents prescribe the details for the construction and completion of the Work that Contractor undertakes to perform in accordance with the terms of the Contract.

H. Subject to applicable law, including without limitation to California Public Contract Code sections 4100 et seq., and the terms of the Contract governing subcontracting, the Divisions and Sections of the Specifications and identifications of any Drawings shall not control Contractor in dividing the Work among subcontractors or suppliers or delineating the work to be performed by any specific trade. Paragraphs titled "Section Includes" are not intended to "scope" the Section nor imply a trade responsibility, but serve merely as a listing of significant items in the Section to allow the reader to quickly assess the Section content. Similarly, Paragraphs titled "Related Sections" or "Related Requirements" or "Related Documents" are not intended to coordinate the Contractor's work, but merely indicate where certain other significant items that may be related to the Work of the Section are specified.

I. Reasonably implied parts of the Work shall be performed as “incidental work” even though absent from the Drawings and Specifications. “Incidental” work shall be performed by Contractor without extra cost to City. Incidental work includes any work not shown on Drawings nor described in Specifications, but which is necessary or normally or customarily required as a part of the Work shown on the Drawings or described in the Specifications, or is necessary or required to make each installation satisfactory, legally operable, functional, consistent with the intent of the Drawings and Specifications or the requirements of the Contract Documents. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and expense thereof shall be included in the Bid Price. Incidental work includes, but is not limited to, tasks required to be performed under Division 1, GENERAL REQUIREMENTS, of the Specifications.

J. By entering into the Agreement, Contractor represents it is familiar with the Project Site conditions including the availability of labor and materials in the local geographic area where the Work is to be performed and has correlated personal observations with requirements of the Contract Documents.

K. While the City has endeavored to accurately represent the physical conditions which may affect the cost of the proposed work shown on the plans or indicated in the Specifications, the City does not warrant the completeness or accuracy of such information. It is the Contractor’s responsibility to ascertain the existence of any such conditions affecting the cost of the work which would have been disclosed by reasonable examination to the Site.

L. No test, investigation, statement or estimate of a factual situation not incorporated in the Contract shall be relied on by the Contractor. Any test, investigation, statement or estimate of fact incorporated in the Contract shall be considered by the Contractor to be a suggestion only, and he or she may request equal access to the underlying or background informative material or source and shall arrive at his or her own opinion thereon, including his or her own determination of how reliable any conclusion appearing in (or inferred from) the Contract.

M. The Contractor may not rely on “drawings of record” or similarly final or accepted drawings or maps of facilities constructed on public or private property for or under inspection by the City. Such information may be used for reference only. Actual locations and depths shall be determined by field investigations by the Contractor.

N. In the event of any difference, discrepancy, inconsistency, error, omission, or other apparent conflict within the Contract Documents and/or with actual field conditions, Contractor must immediately notify City in writing, requesting clarification. If Contractor is aware the Work is affected and proceeds with the Work without instructions from City, Contractor must make good any resultant damage or defects without additional cost to the City.

O. The misplacement, addition, omission of a word or character shall not change the intent of any part of the Contract form that set forth by the Contract as a whole.

P. When standards of the Federal Government, trade societies, trade associations, or similar commercial standards are referred to in the Contract Documents by specific date of issue, these standards, including amendments or supplements, will be considered as part of the Contract Documents. When such references do not bear date of issue, the current published edition, including amendments or supplements, at the date of the first Notice Inviting Bids will be considered as part of the Contract Documents.

Q. Contractor is responsible for the complete and proper execution of the Work as described in, and as reasonably implied by, the Contract Documents. Contractor is solely responsible for ensuring that all Subcontractors, Suppliers, Manufacturers, etc., working with any portion of the Contract Documents are fully aware that all the Contract Documents apply to their Work, although the other portions of the Contract Documents may not be fully reproduced or repeated therein.

R. The Contract Documents issued by City and copies furnished to the Contractor, are for use solely with respect to the Work of this Project. They are not to be used by the Contractor or any Subcontractor, Sub-Subcontractor or Supplier on other projects, nor for additions to this Project outside the scope of the Work without the specific written consent of City. The Contractor, Subcontractors, Sub-Subcontractors and Suppliers are granted permission to use and reproduce applicable portions of the

Contract Documents issued by City appropriate to, and for use in, the execution of their Work pursuant to the requirements of the Contract Documents.

S. Unless otherwise indicated, highlighted, emboldened, italicized, or underlined text is not indented to imply special significance but serves merely as an aid to the reader to distinguish or quickly reference selected text.

1.04 INTERPRETATION OF THE CONTRACT DOCUMENTS

A. Notwithstanding any omission from these Specification or the Drawings it shall be the duty of the Contractor to call the Construction Manager's attention to apparent errors or omissions and request instructions in writing before proceeding with the work. The Contractor, as part of the Contract, shall agree not take advantage of any errors or omissions in the Contract Documents. It is also the duty of the Contractor to promptly notify the Construction Manager in writing of any design, materials, or specified method that the Contractor believes may prove defective or insufficient or for which there are procurement challenges affecting the ability of the Contractor to complete the Work within the times required. If the Contractor believes that a defect or insufficiency exists in design, materials or specified method and fails to promptly notify the Construction Manager in writing of this belief, the Contractor thereby waives any right to assert entitlement to and/or recover any damages and/or time extensions arising from any such that a defect or insufficiency in design, materials or specified method at any later date in any legal or equitable proceeding against the City, or in any subsequent arbitration or settlement conference between the City and the Contractor. The Construction Manager may, by appropriate instructions correct errors and supply omitted information, which instructions shall be as binding upon the Contractor as though contained in the original Specifications or Drawings.

B. Any discrepancies found between the Contract Documents and Project Site conditions or any inconsistencies or ambiguities in the Contract Documents shall be immediately reported, in writing, to the Construction Manager. Questions regarding the meaning and intent of the Contract Documents shall be referred in writing by the Contractor to the Construction Manager with a RFI. The Construction Manager shall respond to the Contractor in writing with a decision within fifteen (15) days of receipt of the request, or if it is necessary to extend this period, the Construction Manager shall notify the Contractor in writing as to when a decision will be provided. RFI procedures are further described in Section 01340, Request for Interpretation.

C. Work done by the Contractor after its discovery of such errors, omissions, discrepancies, inconsistencies or ambiguities without such notice and prior to response from the Construction Manager shall be done at the Contractor’s risk.

1.05 ORDER OF PRECEDENCE OF THE CONTRACT DOCUMENTS

A. In resolving conflicts resulting from errors or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:

1. Permits from other agencies as may be required by law.
2. Addenda, Supplemental Agreements and Change Orders, the one dated later having the precedence over another dated earlier.
3. Agreement (Section 00510).
4. Contractor’s accepted Bid Form (Section 00400).
5. General Requirements (Division 1).
6. Supplementary General Conditions (Section 00800).
7. General Conditions (Section 00700).
8. Instructions to Bidders (Section 00200).
9. Notice Inviting Bids (Section 00100).
10. Technical Specifications including all Tables, Exhibits and Attachments .
11. Contract Drawings.
12. City Standard Specifications.

13. Reference/Standard Plans.
14. Reference/Standard Specifications.

B. With reference to the Drawings, the order of precedence is as follows:

1. Enumerated dimensions govern over scaled dimensions.
2. Detail drawings govern over general drawings.
3. Addenda/Change Order drawings govern over any other drawings.
4. Contract Drawings govern over standard drawings/plans.

C. The provisions of the Contract Documents shall take precedence over any Laws or Regulations applicable to the performance of the Work unless such an interpretation of the provisions of the Contract Documents would result in a violation of such Law or Regulation.

D. Minor Omissions:

1. If the Contract Documents are not complete as to any minor detail or required construction system or with regard to the manner of combining or Installing of parts, materials, or equipment, but there exists accepted trade standard for good and workmanlike construction, such detail will be deemed to have been included by the requirements of the Contract Documents in accordance with such standard.

1.06 ADDITIONAL DETAILED INSTRUCTIONS

A. City may furnish additional detailed written and/or graphic instructions to explain the Work more fully, and such instructions become a part of the requirements of the Contract Documents. Should Additional Detailed Instructions, in the opinion of the Contractor, constitute Work in excess of the requirements of the Contract Documents, the Contractor must submit written notice to the City within seven (7) Days following receipt of such instructions, and in any event prior to commencement of the Work thereon. If in the City's judgment the Additional Detailed Instructions constitute Work in excess of the requirements of the Contract Documents, the Additional Detailed Instructions will be revised or the extra Work will be added by Change Order.

1.07 RIGHTS AND REMEDIES

A. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to, and not a limitation of, any duties, obligations, rights, and remedies otherwise imposed or available by law.

B. No action or failure to act by the City, the Design Engineer, or the Construction Manager shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

****END ARTICLE 1****

ARTICLE 2 - CONTRACT ADMINISTRATION

2.01 ADMINISTRATION OF THE CONTRACT

A. The City's Representative, the Construction Manager, and the Design Engineer will provide administration of the Contract as hereinafter described. These parties are designated in Section 00510, Agreement. If the status of any of the above parties should change, the City will provide written notice to the Contractor of such change.

B. Contractor recognizes that the City is a public agency and that it can act only through its duly authorized agents, and in this regard agrees that only written change orders, executed as specifically authorized by the governing body of the City either directly or through properly authorized agents, shall be valid. The City's Representative shall have no authority to issue a change order unless so specifically authorized, and no person shall have authority to issue any oral change order. Unless a valid change order is issued therefore, all changes in the work performed by the Contractor shall be at its own risk, and the Contractor shall not be entitled to any additional compensation on account thereof, and the Contractor may be required to make the work conform to the Specifications. No act or series of acts by the City during the course of the Contract shall be deemed to constitute a waiver of the right of the City to rely upon the provisions of this subparagraph.

C. The City's Representative shall decide any and all questions which may arise as to the quality or acceptability of materials furnished and work performed and as to the manner of performance and rate of progress of the work; all questions which arise as to the interpretation of the Plans and Specifications; all questions as to the acceptable fulfillment of the Contract on the part of the Contractor; and all questions as to claims and compensations.

D. Any decision of the City's Representative shall be final and he or she shall have executive authority to enforce and make effective such decisions and orders should the Contractor fail to carry out promptly.

2.02 CITY'S REPRESENTATIVE

A. General:

1. The City's Representative has the authority to act on behalf of the City on change orders, field orders, progress payments, Contract decisions, acceptability of the Contractor's work, or early possession.

B. Change Orders/Field Orders:

1. The City's Representative has the authority to accept or reject change orders, field orders and cost proposals submitted by the Contractor or as recommended by the Construction Manager.

C. Progress Payments:

1. The City's Representative has the authority to accept or reject requests for progress payments which have been submitted by the Contractor and recommended by the Construction Manager.

D. Contract Decisions:

1. Should the Contractor disagree with the Construction Manager's decision with respect to the Contract, the Contractor may appeal to the City's Representative in accordance with the provisions of the Contract.

E. Acceptability of Work:

1. The City's Representative has the authority to make the final determination of the acceptability of the Work. The City's Representative also has the authority to accept or reject the Design Engineer's recommendations regarding retention of defective work as provided.

2.03 CONSTRUCTION MANAGER

A. General:

1. The Construction Manager is a representative of the City employed to act as advisor and consultant to the City in construction matters related to the Contract. The term Construction

Manager may include more than one individual to perform contract administration and construction observation. Hereinafter, the term Construction Manager includes any and all representatives working under the direction of the Construction Manager.

2. All instructions to the Contractor and all communications from the Contractor to the City or the Design Engineer shall be forwarded through the Construction Manager. The Construction Manager will have authority to act on behalf of the City only to the extent provided in the Contract Documents. The City has delegated its authority to the Construction Manager to make initial decisions regarding questions which may arise as to the quality or acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the Work under the Contract. The Construction Manager shall interpret the intent and meaning of the Contract and shall make initial decisions with respect to the Contractor's fulfillment of the Contract and the Contractor's entitlement to compensation. The Contractor shall look initially to the Construction Manager in matters relating to the Contract.
3. The Construction Manager's authority to act under Section 00700- Article 2, Contract Administration, and any decision made by it in good faith either to exercise or not to exercise such authority, shall not be interpreted or construed as control or responsibility of any of the work performed under this Contract.

B. Construction Manager’s Responsibility:

1. The Construction Manager will observe the progress, quality, and quantity of the Work to determine, in general, if the Work is proceeding in accordance with the provisions of the Contract Documents. The Construction Manager shall not be responsible for construction means, methods, appliances techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work.
2. In accordance with the provisions detailed elsewhere in these General Conditions, the Construction Manager will make decisions relative to all matters of interpretation or execution of the Contract Documents.

C. Observation and Inspections of Construction:

1. The Construction Manager shall observe the construction and shall have the authority to reject work and materials which do not conform to the Contract Documents, and to require special inspection or testing.
2. Observation and inspection by an Inspector is not an authorization to revoke, alter, or waive any requirements of the Specifications. Observation and inspection by an Inspector is an authorization to call the attention of the Contractor to any failure of the Work, materials, or workmanship to conform to the Contract Documents. The Inspector shall have this authority including the ability to reject materials or, in any emergency, suspend the Work. The Contractor may appeal any such issue which it disagrees with to the Construction Manager for decision. If the decision of the Construction Manager is not satisfactory to the Contractor, the Contractor may appeal such decision to the City’s Representative.

D. Acceptability of the Work:

1. The Construction Manager has the authority to make a recommendation as to the acceptability of the Work.

E. Change Orders:

1. The Construction Manager has the authority to initiate change orders; to reject change orders proposed by the Contractor or Design Engineer; to negotiate and recommend acceptance of change orders; or to order minor changes in the Work at no cost to the City.

F. Construction Schedule:

1. The Construction Manager has the authority to review and recommend acceptance of the Progress Schedule submitted by the Contractor at the start of the Work and subsequent significant revisions for conformance to the specified sequence of work and logic.

G. Progress Payments:

1. The Construction Manager has the authority to recommend acceptance or rejection of requests for progress payments which have been submitted by the Contractor.

H. Completion:

1. The Construction Manager, with the assistance of the Design Engineer, will conduct inspections to determine the dates of Substantial Completion of the Work and final completion of the Work, and will receive and forward to the City, for the City's review, written warranties, and related documents required by the Contract and assembled by the Contractor.

2.04 DESIGN ENGINEER

A. General:

1. The Design Engineer will have the authority to act on behalf of the City only to the extent provided in the Contract Documents.

B. Interpretations:

1. The Design Engineer has the authority to be the initial interpreter of the technical requirements of the Contract Documents. Either party to the Contract may make written request to the Construction Manager for interpretations necessary for the proper execution or progress of the Work. The Construction Manager shall refer such written requests to the Design Engineer, who will render such interpretations. Where the Contractor has requested an interpretation from the Construction Manager, or been notified by the Construction Manager that such interpretation has been requested by the City, any work done before receipt of such interpretations, if not in accordance with same, shall be removed and replaced or adjusted as directed by the Construction Manager without additional expense to City.

C. Acceptability of the Work:

1. The Design Engineer has the authority to make a recommendation as to the acceptability of the Work. The Design Engineer has the authority to recommend acceptance regarding the retention of defective work.

D. Submittals

1. The Design Engineer shall receive, through the Construction Manager, shop drawings, product data, and samples for review in accordance with Section 01330, Submittal Procedures.
2. The Design Engineer has the authority to review and take other appropriate action upon the Contractor's submittal such as shop drawings, product data and samples, but only for conformance with the design concept of the Work and the information given in the Contract Documents.

****END ARTICLE 2****

ARTICLE 3 - CITY

3.01 GENERAL

A. The City, acting through the City's Representative or the Construction Manager, shall have the authority to act as the sole judge of the Work and materials with respect to both quantity and quality as set forth in the Contract Documents.

3.02 ATTENTION TO WORK

A. The City's Representative, Construction Manager, and Design Engineer are designated in Section 00510, Agreement. The Construction Manager's designated representative may be available at the Project Site of the Work. An alternate representative may be designated when the designated Construction Manager's representative is not available at the Project Site of the Work. The Design Engineer may assign a representative to be available at the Project Site of the Work.

3.03 OBSERVATION AND INSPECTION

A. In addition to the Construction Manager's designated representative, the City may provide one or more Inspectors to the Construction Manager to observe the work and with the same authority.

B. Separate and independent from the observations and inspections above, the Project may be inspected by others for code and permit compliance. Such inspectors shall have the authority provided to them by local jurisdiction.

3.04 CITY'S RIGHT TO USE OR OCCUPY

A. The City reserves the right, prior to Substantial Completion, to occupy, or use, any completed part or parts of the Work, providing these parts or areas have been approved for occupancy or use by the City. Subject to applicable laws, the exercise of this right shall in no way constitute an acceptance of such parts, or any part of the Work, nor shall it in anyway affect the dates and times when progress payments shall become due from the City to the Contractor or in any way prejudice the City's rights in the Contract, or any bonds guaranteeing the same. The Contract shall be deemed completed only when all the Work contracted has been duly and properly performed and accepted by the City.

B. Prior to such occupancy or use, the City and Contractor shall agree in writing regarding the responsibilities assigned to each of them for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents.

C. In exercising the right to occupy or use completed parts of the Work prior to the Substantial Completion thereof, the City shall not make any use which will materially increase the cost to the Contractor, without increasing the Contract Amount, nor materially delay the completion of the Contract, without extending the time for completion.

D. The part or parts of the Work, if any, which the City anticipates the use or occupancy of prior to Substantial Completion are noted in Division 1, General Requirements. Failure to include a part of the Work in the above referenced section, shall not limit the City's right to use or occupy parts of the Work not listed.

3.05 CITY'S RIGHT TO CARRY OUT THE WORK

A. If the Contractor should neglect to prosecute the Work properly or fail to perform any provision of the Contract, and fails within five (5) days after receipt of written notice from the City to commence and continue correction of such neglect or deficiency with diligence and promptness, the City may, and without prejudice to any other remedy, make good such default, neglect or failure.

B. The City also reserves the right to perform any portion of the Work due to an emergency threatening the safety of the Work, public, City, and any property or equipment.

C. In either case, a Change Order shall be issued unilaterally deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies and/or for performing such work,

including compensation for the Design Engineer's, the Construction Manager's, and City's additional services made necessary by such default, neglect, failure or emergency.

3.06 CITY'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

A. The City reserves the right to perform work related to the Project with the City's own forces, and to award separate contracts in connection with the Project or other work on the Project Site.

B. When separate contracts are awarded for different portions of the Project or other work on the Project Site, the term "Contractor" in the Contract Documents in each case shall mean the contractor who executes each separate Agreement.

C. The City will provide for the coordination of the work of the City's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate therewith as provided in Section 00700-6.02, Cooperation with City's Forces, and other contractors employed by City.

3.07 CITY ACCESS TO WORK AREAS

A. The City, and its officers, agents, agents, employees, and any other duly authorized representatives and employees, and all duly authorized representatives of governmental agencies having jurisdiction over work areas or any part thereof shall at all reasonable times, for the purpose of determining compliance with Contract requirements, have access to such areas and the premises used by the Contractor. The Contractor shall also arrange for the City, and its officers, agents, employees, and any other duly authorized representatives and employees, to have access at all reasonable times to all places where equipment or materials are being manufactured, produced, or fabricated for use under the Contract.

B. The Contractor's attention is drawn to the fact that during the course of the work of this Contract, existing facilities will be used and maintained by City's personnel. The Contractor shall coordinate its work in such a way as to interfere as little as possible with the routine work of existing facility operation consistent with the necessity for making the connections as specified and as shown on the Project Drawings. The intent of this item is also that the Contractor's work force shall be excluded from access to and use of existing facilities except in direct pursuit of the work of this Contract, unless approved by the Engineer. The Contractor shall provide safe access at all times to all existing facilities for operating personnel and equipment.

3.08 CITY-ACQUIRED PERMITS

A. Attention is directed to the Contract Documents and to any permits that may have been acquired by or imposed upon the City that contain requirements related to performance of the work, including but not limited to encroachment permits and storm water pollution prevention. All work within public properties and rights of way shall be accomplished in conformance with any specific conditions, instructions, and/or requirements contained in permits issued by the agencies having jurisdiction over such property and rights of way.

3.09 CITY-ACQUIRED EASEMENTS

A. The City may provide easements for work under the Contract. City-provided easements are shown in the Contract Documents. All work within private and public properties shall be accomplished in conformance with any specific conditions, instructions, and/or requirements of the respective easements.

B. The City may provide additional easements for use of public or private property for working space, haul roads, and for storage of materials and equipment. City provided easements are shown in the Project Documents. The Contractor may use such property so provided for working space, haul roads, and for storage of materials and equipment. Should the Contractor find it necessary or advantageous to use any land, over and above that land that is provided, for any purpose whatever, the Contractor shall, at its expense, obtain a written agreement with the property owner and obtain approval from the City for the use of such land. A copy of any such agreement shall be submitted to the Engineer prior to implementation.

C. Nothing in the Contract shall be construed as allowing the Contractor to make any arrangements with any person to permit occupancy or use of any land, structure, or building for any Contract purpose whatsoever, either with or without compensation, in conflict with any agreement between the City and any owner, former owner, or tenant of such land, structure, or building.

3.10 NON-RESPONSIBILITY OF THE CITY

A. The City shall not be held responsible for the care or protection of any material or parts of the Work prior to the final acceptance, except as expressly provided in these Contract Documents.

****END ARTICLE 3****

ARTICLE 4 - CONTRACTOR

4.01 GENERAL RESPONSIBILITIES

A. Contractor must supervise and direct the Work, using its best skill and attention.

B. Contractor is solely responsible for all construction means, methods, techniques, operations, sequences and procedures, and for coordinating all portions of the Work.

C. Contractor is responsible to City for the acts and omissions of Contractor's employees, Subcontractors, Suppliers, their agents and employees, and all other persons performing any Work pursuant to a contract with Contractor.

D. Contractor will not be relieved from its obligations to perform the Work in accordance with the requirements of the Contract Documents, either by the activities or duties of City or City's consultants in their administration of the Contract, or by inspections, tests, acceptance, or approvals required or performed by persons other than Contractor.

E. Contractor shall at all times enforce good order and discipline among its employees and must not employ on the Work anyone not skilled in the task assigned.

F. Contractor shall at all times employ qualified workers sufficient to prosecute the Work at a rate and in a sequence and manner necessary to complete the Work within the Contract Time(s). This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.

G. Contractor warrants to City that all materials and equipment provided pursuant to the Contract are new unless otherwise specified, and that all Work is of good quality, free from faults and defects and in conformance with the requirements of the Contract Documents. All Work not conforming to these requirements, including substitutions not properly accepted and authorized by City's Representative may be considered defective. Upon request at any time, Contractor must furnish evidence, satisfactory to City, demonstrating the quality of installed materials and equipment.

H. Unless otherwise provided in the Contract Documents, the Contractor must provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The provision of utilities such as gas, electricity and water is governed by the Technical Specifications.

I. Contractor has charge and care of all Work and all materials to be used therein (including materials for which Contractor has received partial payment or materials which have been furnished by City) until Acceptance of the Work. Contractor bears the risk of injury, loss, or damage to any part thereof by the action of the elements or from any other cause, whether arising from the performance or nonperformance of the Work, except as otherwise expressly provided.

J. Contractor must rebuild, repair, restore, and make good all injuries, losses, or damages to any portion of the Work or the materials by any cause before Completion and Acceptance.

K. Contractor must Provide suitable drainage and erect such temporary structures as are necessary to protect the Work or materials from damage. Suspension of the Work from any cause whatever will not relieve Contractor of responsibility for the Work and materials as herein specified.

L. The Contractor, at its expense, store and maintain all materials and equipment as specified in the Contract Documents or, where not specified, in such a manner as to assure the preservation of their quality and fitness, including warehousing if required by the Engineer, and so as to facilitate job-site safety and convenient inspection by the Engineer. Contractor must properly store materials which have been partially paid for by City or which have been furnished by City. Such storage by Contractor is on behalf of City who shall at all times be entitled to the possession of such materials. Contractor must promptly return such materials to the Project Site when requested. Contractor must not dispose of any of the materials so stored except upon City's written authorization.

4.02 STATUS OF CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS

A. It is stipulated and agreed that the Contractor shall be an independent contractor in the performance of this Contract and shall have complete charge of persons engaged in performance of the Work. During the term of the Contract, Contractor shall not under any circumstances be considered an employee, agent, or other representative of the City. Contractor is not authorized to bind City to any obligation. Nothing in this Contract creates any relationship of joint venture, partnership or any other association of any nature whatsoever between City and Contractor other than that of owner and independent contractor. City has the right to control Contractor only insofar as provided in this Contract and only insofar as the results of Contractor's work pursuant to the Contract. The City's right of supervision does not reduce or abrogate Contractor's liability for any and all damage or injury to persons, public property or private property that may arise directly or indirectly from Contractor's performance of the Work.

B. The Contractor shall perform the Work in accordance with its own means, methods, and appliances subject to compliance with the requirements of the Contract.

C. Subcontractors and Suppliers will not have or be recognized as having a direct relationship with the City. The persons engaged in the work, including employees of Subcontractors and Suppliers, will be considered employees of the Contractor and their work shall be subject to the provisions of the Contract. References in the Contract Documents to actions required of subcontractors, manufacturers, suppliers, or any person other than the Contractor, the City, or the Construction Manager shall be interpreted as requiring that the Contractor shall require such subcontractor, manufacturer, supplier, or person to perform the specified action.

4.03 CONTRACTOR REPRESENTATIVE

A. Only the Project Manager or Project Superintendent named in Section 00480, **CERTIFICATION OF BIDDER'S EXPERIENCE AND QUALIFICATIONS,** or an equally qualified alternate approved by the City**,** will be permitted as the Contractor's on-site authorized representative. The Contractor shall confirm in writing, before starting work, an authorized representative who shall have complete authority to represent and to act for the Contractor. Said authorized representative, or designated alternate, which has the authority to act in matters relating to the Contract, shall be personally present at the Project Site at all times while work is actually in progress on the Contract. During periods when the Work is suspended, arrangements acceptable to the City shall be made for any emergency work that may be required. The Contractor's authorized representative, or designated alternate(s), shall be fluent and proficient in the English language in order to understand, receive, and carry out oral and written communications or instructions relating to all job functions and responsibilities.

B. When the Contractor consists of two or more persons, firms, partnerships, limited liability companies, or corporations functioning on a joint venture basis, said Contractor shall designate in writing to the Construction Manager, the name of their authorized representative who shall have supreme authority to direct the work and to whom orders will be given by the Construction Manager, to be received and obeyed by the Contractor.

C. Information shall include the representative's name, street address, town, and office telephone number, cell phone number and email address.

D. The Contractor's Representative shall give its personal attention to and shall supervise the Work to the end that it shall at all reasonable times be prosecuted faithfully. When the Contractor's Representative or designated alternate is not personally present on the Work, the representative shall at all reasonable times be represented by a competent superintendent or foreman who shall receive and obey all instructions or orders given under this Contract, and who shall have full authority to supply materials, tools, and labor without delay, and who shall be the legally appointed representative of the Contractor. The Contractor shall immediately notify the Construction Manager when the Contractor's Representative is absent and also provide the name and position of Contractor's interim representative during the Contractor Representative's absence. The Contractor shall be liable for the faithful observation of any instructions delivered to the Contractor or to the Contractor's Representative.

E. The City's Representative shall have the right to remove and replace the Contractor's Representative at any time.

4.04 WORKPLACE ENVIRONMENT

A. The use or possession of alcohol, weapons, or illegal controlled substances by the Contractor, or others subject to the Contractor's control, on City property is prohibited. The Contractor shall not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors or non-prescribed illegal narcotics or drugs upon or about the Work.

B. The Contractor must ensure and maintain a workplace environment free of personal harassment and intimidation.

C. Conduct that creates an intimidating, hostile, or offensive workplace environment is prohibited. Such conduct includes, but is not limited to, the following:

   1. Verbal harassment, e.g., epithets, derogatory comments or slurs;
   2. Physical harassment, e.g., assault, impeding or blocking movement, gestures, staring, or any physical interference with normal work or movement;
   3. Visual forms of harassment, e.g., derogatory posters, letters, poems, graffiti, cartoons, or drawings.

D. Unwelcome and unwanted sexual advances constitute sexual harassment that is prohibited. For example, requests for sexual favors and verbal or physical conduct of a sexual nature are prohibited.

E. It is the responsibility of the Contractor to:

   1. Inform its employees and Subcontractors that behavior that creates an intimidating, hostile, or offensive workplace environment is prohibited;
   2. Create a workplace environment that is free from harassment; and,
   3. Take corrective action to stop prohibited behavior/conduct.

F. None but competent superintendents, forepersons, and workers shall be employed on the Work. The Contractor shall remove from the Work any person who commits trespass, possesses firearms or other weaponry, is under the influence or is in the possession of alcohol or other illegal drugs/controlled substance, or is, in the opinion of the Contractor or Construction Manager, disorderly, dangerous, insubordinate, incompetent, or otherwise objectionable.

G. If in the opinion of the City's Representative, any employee of the Contractor or Contractor's Subcontractors violate the prohibitions of this Section 00700-4.04, Workplace Environment, Contractor must immediately remove that person or Subcontractor from the Project upon City's request, and such person or Subcontractor must not be permitted to perform further Work on the Project Site.

H. Such above discharges and removal from the Project Site shall not be the basis of any claim for compensation or damages against the City, its officers, officials, employees, agents, and volunteers, the Design Engineer, the Construction Manager, and their partners, officers, employees, agents or any of its officers or representatives.

I. Nothing contained in 4.04, Workplace Environment, shall be used to shift the responsibility for supervision of Contractor's employees or subcontractors from the Contractor to the City's Representative or to require the City's Representative to take any action with regard to any employee of the Contractor or its subcontractors.

J. The Contractor shall maintain labor relations in such manner and by such methods as will provide for harmony among workers. The Contractor shall assure that its subcontractors of all tiers comply with the provisions set forth in this Section. Failure of the Contractor or any of its subcontractors at any tier to comply with these provisions shall be considered as grounds for termination of the Contract in accordance with Section 00700- 8.10, City's Right to Terminate Contract.

4.05 COMPLIANCE WITH LAWS

A. General:

   1. The City is a public agency in the State of California and is subject to the provisions of law relating to public contracts. It is agreed that all provisions of law applicable to public contracts are a part

of these Contract Documents to the same extent as though set forth herein and will be complied with by Contractor.

2. The Contractor, shall at its own cost and expense, observe and keep itself and its Subcontractors fully informed of all existing and future legislated State and Federal Laws and City and County ordinances and regulations which in any manner affect those engaged or employed in the Work, or the materials and equipment used in the Work, or which in any way affect the conduct of the Work, and all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Drawings, Specifications, or in any other part of this Contract, in relation to any such law, ordinance, regulation, order, or decree, the Contractor shall immediately report the same to the Construction Manager in writing. The Contractor shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees; and shall protect, indemnify, defend and hold harmless the City, the Construction Manager, the Design Engineer, and all of their officers, officials, employees, agents, volunteers, and servants against any claim or liability arising from or based upon the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor itself, its employees, subcontractors, suppliers or others acting on the Contractor's behalf.

3. The following regulations and requirements that are included in the Contract Documents do not relieve the Contractor of the burden of ascertaining legal requirements that must be satisfied in accordance with this Section and applicable law.

B. Eight Hour Day Limitation

1. The Contractor's attention is directed to the provisions of Division 2, Part 7, Chapter 1, Article 3 of the Labor Code, State of California, and in particular Sections 1810 to 1815 inclusive. In accordance with California Labor Code §1810, eight (8) hours of labor in performance of the Work shall constitute a legal day's work under this Agreement. Contractor and any subcontractor shall pay workers overtime pay (not less than 1 1/2 times the base rate of pay) as required by Sections 1810 to 1815, inclusive, of the California Labor Code relating to working hours. Contractor and any Subcontractor shall, as a penalty to the City, forfeit the sum of twenty-five dollars ($25) for each worker employed in the execution of the Contract by the respective Contractor or Subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 of Chapter 1 of Part 7, Division 2 of the California Labor Code, which is incorporated by this reference as though fully set forth herein.

C. Prevailing Wage

1. The Work to be performed pursuant to this contract is "public works" subject to California Labor Code §1771, et. seq. and the applicable implementing regulations. The General Prevailing Wage Rates issued by the California Department of Industrial Relations may be adjusted by the State during the term of this Contract. Notwithstanding any other provisions of this Contract, Contractor will not be entitled to any adjustment in compensation rates in the event there are adjustments to the General Prevailing Wage Rates.

2. Contractor shall comply with California Labor Code §1775, whereby Contractor shall be assessed a penalty for each calendar day or portion thereof, for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any Work done pursuant to the Contract by Contractor or any Subcontractor in violation of the California Labor Code and in particular §1770 through §1780. In addition to said penalty and pursuant to §1775, Contractor shall pay each worker the difference between such stipulated prevailing wages and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate.

3. Pursuant to the provisions of California Labor Code §1770 and following, the California Department of Industrial Relations has ascertained the general prevailing rate of wages (which rate includes employer payments for health and welfare, vacation, pension, and similar purposes) applicable to the Work, for straight time, overtime, Saturday, Sunday, and Holiday work. The Holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of each craft, classification, or type of workers concerned. Said prevailing wage rates

are on file in the City's offices, incorporated herein by reference, and copies of which are available to any interested party on request. The rates are also available on the State of California's Department of Industrial Relations website at:

https://www.dir.ca.gov/oprl/DPreWageDetermination.htm.

4. If Contractor uses a craft or classification not shown on the prevailing wage determinations, Contractor may be required to pay the wage rate of that craft or classification most closely related to it, shown in the general determinations in effect when the Bids were received. Pursuant to California Labor Code §1773.2, Contractor shall prominently post a copy of such prevailing wages at each job site.
5. Pursuant to California Public Contract Code §6109, the Contractor shall not perform Work on this public works project with any Subcontractor who is ineligible to perform Work on a public works project pursuant to §1777.1 or §1777.7 of the California Labor Code. Any contract on a public works project entered into between the Contractor and a debarred Subcontractor is void as a matter of law. A debarred Subcontractor may not receive any public money for performing Work as a Subcontractor on a public works contract, and any public money that may have been paid to a debarred Subcontractor by the Contractor on this Project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred Subcontractor who has been allowed to work on the Project.
6. Pursuant to California Labor Code §1771.5.b.6, the City will withhold contract payments equal to the amount of underpayment and applicable penalties when, after investigation, it is established that underpayment of prevailing wage has occurred.

D. Certified Payrolls:

1. Contractor shall provide certified payroll records electronically to the Division of Labor Standards Enforcement in accordance with California Labor Code §1776. In addition to the California Labor Code requirements related to certified payroll records enumerated herein, the Contractor shall submit weekly certified payrolls and comply with all payroll requirements of this Section. Contractor and any subcontractor shall maintain and make available for inspection payroll records as required by California Labor Code §1776, which is incorporated by this reference as though fully set forth herein. Contractor is responsible for ensuring compliance with this Section. Contractor and each subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, and straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor in connection with the Project. Said payroll shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:
   a. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
   b. A certified copy of all payroll records enumerated in Section 00700-4.07.D, herein, shall be made available for inspection or furnished upon request to the City, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.
   c. A certified copy of all payroll records enumerated in Section 00700-4.07.D, herein, shall be made available upon request by the public for inspection or for copies thereof; provided, however, that a request by the public shall be made through either the City, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to subparagraph (2) herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Contractor, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal offices of the Contractor.
2. Certified payroll records shall be submitted electronically as required under California Labor Code §1776 to the Labor Commissioner pursuant to California Code of Regulations Chapter 8, §16404. Per §1776 of the Labor Code, the Contractor shall be responsible for the submittal of its own payroll records and the payroll records of all its subcontractors. All certified payroll records shall

be accompanied by a statement of compliance signed by the Contractor indicating that the payroll records are correct and complete, that the wage rates contained therein are not less than those determined by the Director of the Department of Industrial Relations, and that the classifications set forth for each employee conform with the work performed. All such payroll records and compliance forms required hereunder shall be maintained by Contractor for a period of no less than three (3) years after the completion of the Work.

3. The Contractor is responsible for its and its subcontractors' compliance with the provisions of §1776 of the Labor Code.
4. Each Contractor shall file a certified copy of the records, enumerated in Section 00700-4.07.D with the entity that requested the records within ten (10) days after receipt of a written request. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the City, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor awarded the Contract or performing the Contract shall not be marked or obliterated. The Contractor shall inform the City of the location of the records enumerated under Section 00700-4.07.D including the street address, city and county, and shall, within five (5) working days, provide a notice of change of location and address. The Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this Section 00700-4.07.D. In the event that the Contractor fails to comply within the 10-day period, he or she shall, as a penalty to the State of California or the City, forfeit one hundred dollars ($100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Responsibility for compliance with Section 00700-4.07.D lies with the Contractor
5. On-Site Worker Interviews. The City or a representative of the City may make periodic Site visits to observe and interview workers regarding the payment of prevailing wages and proper work classifications. Contractor and each subcontractor shall cooperate and coordinate with the City and provide unaccompanied access to workers on the job Site.
6. Additionally, each contractor and every lower-tier subcontractor and supplier may be required to submit certified payrolls and labor compliance documentation electronically at the discretion of and the manner specified by the City. If requested, electronic submittal will be on a web-based system. Each contractor and subcontractor will be given a Log On identification and password to access the City reporting system. Use of the system may entail additional data entry of weekly payroll information including; employee identification, labor classification, total hours worked and hours worked on this project, wage and benefit rates paid, etc. This requirement will be necessary for every lower-tier subcontractor and vendor required to provide labor compliance documentation. Submission of payroll information electronically shall be inclusive of the project base bid indirect costs and no additional payment shall be made.
7. As required by §1773.1 of the California Labor Code, the Contractor shall pay travel and subsistence payments to each worker needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with this Section.
8. To establish such travel and subsistence payments, the representative of any craft, classification, or type of workman needed to execute the contracts shall file with the Department of Industrial Relations fully executed copies of collective bargaining agreements for the particular craft, classification, or type of work involved. Such agreements shall be filed within ten (10) days after their execution and thereafter shall establish such travel and subsistence payments whenever filed thirty (30) days prior to the call for bids.
9. The Contractor shall comply with the provisions of §1775 of the California Labor Code and shall, as a penalty to the City, forfeit not more than two hundred dollars ($200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of per diem wages for each craft, classification, or type of worker needed to execute the contract. The Contractor shall pay each worker an amount equal to the difference between the prevailing wage rates and the amount

paid worker for each calendar day or portion thereof for which a worker was paid less than the prevailing wage rate. Contractor is required to pay all applicable penalties and back wages in the event of violation of prevailing wage law, and Contractor and any subcontractor shall fully comply with California Labor Code §1775, which is incorporated by this reference as though fully set forth herein.

10. In accordance with the provisions of §1727 of the California Labor Code, the City, before making payment to the Contractor of money due under this contract, shall withhold and retain therefrom sufficient funds to satisfy any civil wage and penalty assessment issued by the Labor Commissioner under Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with §1720). If the City has not retained sufficient money under the Contract to satisfy a civil wage and penalty assessment based on a Subcontractor's violations, Contractor shall, upon the request of the Labor Commissioner, withhold sufficient money due the Subcontractor under the Contract to satisfy the assessment and transfer the money to the City. These amounts shall not be disbursed by the City until receipt of a final order that is no longer subject to judicial review. However, no sum shall be withheld, retained, or forfeited, except from the final payment, without a full investigation by either the Division of Labor Standards Enforcement or by the City.

E. Apprentices:

1. The Contractor's attention is directed to the provisions of Labor Code §1777.5. The Contractor and any subcontractors shall, when they employ any person in any apprenticeable craft or trade, apply to the joint apprenticeship committee administering the apprenticeship standards of the craft or trade in the area of the construction Site for a certificate approving the Contractor or subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected; and shall comply with all other requirements of §1777.5 of the California Labor Code, which is incorporated by this reference as though fully set forth herein. The responsibility of compliance with California Labor Code §1777.5 during the performance of this contract rests with the Contractor. Pursuant to California Labor Code §1777.7, in the event the Contractor willfully fails to comply with the provisions of California Labor Code §1777.5, the Contractor shall be denied the right to bid on any public works contract for up to three (3) years from the date noncompliance is determined and shall be assessed civil penalties.

F. Receipt of Workers' Wages, Fee for Registering or Placing Persons In Public Works

1. Attention is directed to the provisions of §1778 and §1779 of the California Labor Code, which read as follows:

a. "Section 1778. Every person, who individually or as a representative of an awarding or public body or officer, or as a contractor or subcontractor doing public work, or agent or officer thereof, who takes, receives or conspires with another to take or receive, for its own use or the use of any other person any portion of the wages of any workman or working subcontractor, in connection with services rendered upon any public work is guilty of a felony."

b. "Section 1779. Any person or agent or officer thereof who charges, collects, or attempts to charge or collect, directly or indirectly, a fee or valuable consideration for registering any person for public work, or for giving information as to where such employment may be procured, or for placing, assisting in placing, or attempting to place, any person in public work, whether the person is to work directly for the state, or any political subdivision or for a contractor or subcontractor doing public work is guilty of a misdemeanor."

G. Labor Discrimination:

1. Contractor shall abide by all federal and state laws preventing discrimination in the employment of persons upon public works and shall ensure by appropriate contract provisions that all subcontractors are similarly obligated to comply with all such laws. These laws include, but are not limited to the following. California Labor Code §1735 which provides that "A contractor shall not discriminate in the employment of persons upon public works on any basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code. Every contractor for public works who violates this section is subject to all the

penalties imposed for a violation of this chapter." Likewise, Contractor and all of its subcontractors shall abide by the provisions of California Labor Code §1777.6 prohibiting discrimination in the acceptance of otherwise qualified apprentices; and California Labor Code §3073.6, which declares unlawful the discrimination in any recruitment or apprenticeship program on stated grounds. City shall be entitled to retain and withhold all penalties as authorized pursuant to California Labor code, Division 2, Part 7, Chapter 1, commencing with §1720 and following, in accordance with the provisions of that Chapter, and the regulations established by the Director of Industrial Relations pursuant to the statutory authority of such chapter.

H. Workers' Compensation Insurance:

1. Attention is directed to the provisions found in Section 00700- Article 13, Insurance and Indemnification, for requirements of Workers' Compensation Insurance and California Labor Code §3700.

I. Certified Electricians:

1. It is the sole responsibility of the Contractor to ensure compliance with California Labor Code §108- 108.5- Electrician Certification. The Contractor shall use, and/or cause its electrical subcontractor to use, properly certified electricians to perform electrical work and specifically all work covered under the Contract Documents.
2. Information on the electrician certification program may be obtained at the Division of Apprenticeship Standards (DAS) at:

   https://www.dir.ca.gov/dlse/ecu/electricaltrade.html

3. The Division of Apprenticeship Standards also requires that all electricians in the State of California possess adequate training to perform their job. As such, all electricians must fall into one of the following categories:
   a. Journeyman- Certified
   b. Journeyman- Trainee
   c. Apprentice
4. Prior to commencement of electrical work, submit current and complete documentation of electrician certification or enrollment in a California state or Federal approved apprenticeship program for all electrical workers, or any relevant exception on which you intend to rely for satisfying the certification requirements.

J. Lateral and Subjacent Supports:

1. Attention is directed to §832 of the Civil Code of the State of California relating to lateral and subjacent supports, and wherever structures or improvements adjacent to the excavation may be damaged by such excavation, the Contractor shall comply with this law. As provided in California Labor Code §6707, a separate bid item is provided for costs of shoring and bracing of excavations five (5) feet or more in depth.

K. Safety Standards:

1. The Contractor shall comply with all applicable provisions of the Safety and Health Regulations of Construction, promulgated by the Secretary of Labor under Section 107 of the Contract Work Hours and Safety Standards Act (40 USC 327 et. seq.) as set forth in Title 29, C.F.R., Cal/OSHA, and the regulations issued thereunder. Compliance shall be the Contractor's sole responsibility, and neither the City, the Construction Manager nor the Design Engineer shall have any liability for non-compliance. See Section 00700-Article 12, Protection of Persons and Property, for additional safety requirements.

L. Asbestos Related Work:

1. All work involving asbestos containing material must be performed in accordance with California Labor Code, Sections 6501.5 through 6510, inclusive, and California Administrative Code, Title 8, Section 5208 and all other pertinent laws, rules, regulations, codes, ordinances, decrees and orders.

M. Public Records Act:

1. Except as otherwise provided herein, all records, documents, drawings, plans, specifications, and all other information relating to the conduct of City's business, including information submitted by the Contractor ("Records"), shall become the exclusive property of City and shall be deemed public records. Said Records are subject to the provisions of the California Public Records Act (Government Code §6250 et. seq.). The City's use and disclosure of its records are governed by this Act. The City will use its best efforts to inform the Contractor of any request for any financial records or documents marked "Trade Secret", "Confidential" or "Proprietary" provided by the Contractor to City.
2. Contractor, at its sole expense and risk, shall be fully responsible for any and all fees for prosecuting or defending any action brought or instituted by Contractor opposing disclosure of Records and shall indemnify and hold City harmless from all costs and expenses including attorney's fees and costs of litigation in connection with any such action.

N. City will have no liability to Contractor or Contractor's privity concerning disclosure of records in accordance with the California Public Records Act or other applicable law or in accordance with the direction of any competent authority, and Contractor, on behalf of itself, and its privities waives, releases and fully discharges such liability.

4.06 COMPLIANCE WITH ENVIRONMENT LAWS

A. During construction, the Contractor shall comply with all pertinent requirements of Federal, State, and local environmental laws and regulations, including, but not limited to, the Federal Clean Air Act, State and local air pollution and noise ordinances, construction Site erosion control regulations, and if applicable, shoreline construction requirements.

4.07 AUDITS AND ACCESS TO RECORDS

A. The Contractor must maintain all books, records, documents, electronic media, and other evidence directly pertinent to the performance of the Work in accordance with generally accepted accounting principles and practices consistently applied. The Contractor must also maintain all financial information and data used by the Contractor in the preparation or support of any cost submission, including the Contractor's Bid estimate, any Change Order, Dispute, Claim, Pay Application, or other request for equitable adjustment. City and its representatives will have access upon 24 hours advanced written notice, at all times during normal business hours, to all Contractors books, summary reports, records, accounts, estimates, documents, detailed financial information, certified payroll records, and all other relevant information and documentation for the purposes of inspection, audit, and copying. The Contractor will, at no cost to City, provide proper facilities for such access, inspection and copying purposes.

B. Contractor agrees to include and make the requirements of Section 00700-4.07, Audits and Access to Records, applicable to all Subcontracts and Sub-subcontracts or purchase orders in excess of $10,000, at any tier.

C. Audits conducted pursuant to Section 00700-4.07, Audits and Access to Records. A will be in accordance with general accepted auditing standards and established procedures and guidelines of the reviewing or audit agency.

D. The Contractor agrees to provide all information and reports resulting from access to records to City and other affected parties.

E. Records must be maintained and made available during the performance of the Work and for five (5) years after Final Payment, and until final settlement of all Disputes, Claims, or litigation, whichever occurs later. In addition, those records which relate to any portion of this Contract, to any Change Order, to any Dispute, to any litigation, to the settlement of any Claim arising out of such performance, or to the cost or items to which an audit exception has been taken, must be maintained and made available until Final Payment or final resolution of such Dispute, litigation, Claim, or exception, whichever occurs later.

F. The right of access provisions of Section 00700-4.07, Audits and Access to Records, applies to all financial records pertaining to this Contract:

1. to the extent the records pertain directly to Contract performance;
2. to the extent required for verification of the costs incurred where such costs are the basis for billings pursuant to this Contract including Change Orders;
3. to the extent there is any indication of violation of the California False Claims statute or that fraud, gross abuse, or corrupt practices may be involved;
4. if the Contract is terminated for default or convenience.

G. Access to records is not limited to the required retention periods. City's Representative or designee will have access to records at any reasonable time for as long as the records are maintained.

H. Pursuant to California Government Code §8546.7, if the amount of public funds to be expended is in excess of $10,000, this Contract will be subject to the examination and audit of the State Auditor, at the request of the City, or as part of any audit of the City, for a period of three (3) years after final payment under the Contract.

4.08 USE AND PROTECTION OF CITY'S SITE AND ADJACENT PROPERTY

A. With the approval of the City and where applicable, the Contractor may use portions of the City's Site for storage of construction equipment, materials, and field offices. Any Work site office facilities used by the Contractor and/or its privities must conform to all applicable codes, ordinances and regulations. The cost of such Work site office facilities shall be included in the Contract Price. The City will not accept any responsibility for damage to or loss of the Contractor's equipment or materials stored on any Project related Site caused by vandalism, theft, nature, or otherwise, suffered by the Contractor. Protection of all construction equipment, stores, and supplies shall be the sole responsibility of the Contractor. Where additional work space is desired by the Contractor or where the City cannot provide the space to the Contractor, it shall be the Contractor's sole responsibility and expense to obtain such a space for its use.

B. All workers or representatives of the Contractor, subcontractors, or suppliers are admitted to the Site only for the proper execution of the Work in accordance with the Contract Documents. Furthermore, no persons may occupy property owned by the City outside the limit of the Work, as indicated on the drawings, without the express written permission of the City.

C. The Contractor shall enforce any instructions from the City or Construction Manager regarding combustible materials, placement of signs, danger signals, barricades, radios, noise, dust, use of City's restrooms and shower facilities, and smoking. Upon completion of the Work, the Contractor shall remove all temporary barricades, signs, and related materials. No advertising signs shall be erected at the Site(s) of the Work.

D. The Contractor shall determine safe loading capacities and shall not overload any structure, building, pipe, or other existing facility beyond its safe capacity during construction. In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin and protect as may be necessary all foundations and other parts of all existing structures, facilities and improvements on the Site or adjacent to the Site which are in any way affected by the Contractor's excavations or other operations connected with the Work. Prior to commencing any work which in any way affects adjoining or adjacent land or buildings thereon, or public utilities, the Contractor shall notify the Construction Manager to discuss responsibilities for properly notifying the owners/occupants of adjacent land and the protective measures taken by the Contractor. Upon request of the Construction Manager, the Contractor shall meet with the recipient of any notice or attend local public meetings as proper public outreach on local impacts caused by completion of the Work.

E. The Contractor shall take all necessary precautions to protect existing facilities against the effects of all weather and environmental elements and Contractor shall be strictly liable for failure to protect any facility.

F. All existing improvements and facilities shall be protected from any damage resulting from the operations, equipment, or workers of the Contractor during the entire Contract Time.

G. The Contractor shall take all steps necessary to protect all structures, buildings, land, and other facilities from fires and sparks originating from the Work. The Contractor shall comply with all laws and regulations regarding fire protection and shall comply with all instructions given by the fire department with jurisdiction.

H. Any damage to existing conditions, or to any other improvement or property above or below the ground surface, whether public or private, arising from the Contractor's operations or performance of the Work shall be repaired within forty-eight (48) hours by the Contractor without expense to the City, unless disruption of the City's operations or creation of a safety hazard has occurred, in which case damage will be repaired immediately. The forty eight (48) hour non-emergency repair response time may be extended only if agreed to in writing by the City and/or private property owner. Any delays to the project completion times caused by such repairs shall be considered non-compensable and no further extension of the Contract Time will be granted therefor. Should the Contractor fail to timely repair damage caused by its operations or performance in accordance with this Section, the City may take steps to protect property and life, in its sole discretion, and deduct entire cost of such work from amounts due or that may become due the Contractor. No prior notice to the Contractor shall be necessary for the City to take such action.

I. The Contractor shall give at least 72 hours advance notice to the City before commencing any street work (such as pavement grinding or trenching) that may potentially damage any traffic signal detection loop wires or any other signal facility. This requirement is in addition to any Underground Services Alert notification action by the Contractor. The City will mark underground traffic signal facilities. The Contractor shall not proceed with any grinding, trenching, or other underground work until it has been verified with the Inspector that signal facilities have been marked. The Contractor shall be responsible for all damage to traffic signal facilities arising from failure to properly comply with these provisions.

J. In the event that the Contractor's construction activities cause any failure of a traffic facility, it shall be repaired and be made fully operable within 24 hours of the damage occurring. In the event that such repair is not undertaken within this time limit, the City will repair the facility and deduct the cost from monies due to the Contractor. The amount deducted will consist of the repair cost and a 25% markup for administrative costs.

4.09 FEES AND PERMITS

A. The California Environmental Quality Act (CEQA) (Public Resources Code, §21000 and following), may be applicable to permits, licenses and other authorizations which the Contractor must obtain from local agencies in connection with performing the work of the Contract. The Contractor shall comply with the provision of those statutes in obtaining such permits, licenses, and other authorizations, and they shall be obtained in sufficient time to prevent delays in the Work. In the event that the City has obtained permits, licenses, or other authorization applicable to the work in conformance with the requirements of CEQA, the Contractor shall comply with the provisions of these permits, licenses, and other authorizations.

4.10 PROVISIONS FOR HANDLING EMERGENCIES

A. It is possible that emergencies may arise during the progress of the Work, which may require special treatment or make advisable extra shifts of labor forces to continue the Work for twenty four (24) hours per day. These emergencies may be caused by damage or possible damage to nearby existing structures or property by reason of the work under construction, or by storm, accidents, or leakage. The Contractor shall be prepared in case of such emergencies to make all necessary repairs and shall promptly execute such work when required by the Construction Manager. The determinations made by the Construction Manager for handling emergencies shall be final and conclusive upon the parties. Upon start of the Work, Contractor shall provide means for immediate emergency notification of Contractor's designated representative and designated emergency alternates.

4.11 STANDARD AND NONSTANDARD WORKING HOURS

A. Work hours shall conform to all applicable Federal, State, County, and local laws, ordinances, and codes applicable to the Work. Where any of these laws are in conflict, the more stringent requirements shall be followed.

B. All work shall be performed during the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday. This restriction includes deliveries of materials and equipment and servicing of construction equipment on the Project Site. Any work outside this time frame shall be allowed only with prior written permission from the City's Representative. The actual time the City's personnel, Construction Manager or Engineer spend working outside this time frame shall be billed to the Contractor at the personnel's standard charge out rate. Any work designated to have a special time frame shall be so noted on the Plans and/or elsewhere in these Specifications and shall be excluded from this reimbursement.

C. The Contractor may be required to prosecute the Work at night or outside of the standard working hours defined in 4.11.B above. Such work may be required due to project and/or operational constraints as defined in the Contract Documents, or if emergencies arise as provided for in Section 00700-4.10, Provisions for Handling Emergencies. When required, ordered, or permitted to work at night, the Contractor shall provide sufficient and satisfactory lighting and other facilities therefor. Subject to applicable law, for work outside of the normal working hours, the Contractor shall receive no extra payment, but compensation shall be considered as having been included in the price stipulated for the Work, except for authorized work performed outside of the Contract requirements.

D. Should the Contractor perform work outside of the standard hours of 7:00 a.m. and 6:00 p.m., Monday through Friday without the City's written permission, the City will charge the Contractor, as a penalty, five hundred dollars ($500.00) for each infraction. This charge will be deducted from the next progress payment due Contractor.

E. If by 9:00 a.m. each and every work day the Contractor is not going to perform any work, the Contractor is to review the entire Site, considering all situations, and notify the Construction Manager that the Site has been reviewed and the Site is secure. Should any mitigation be necessary, the Contractor should also advise the Construction Manager.

****END ARTICLE 4****

ARTICLE 5 - SUBCONTRACTORS

5.01 SUBLETTING AND SUBCONTRACTING

A. The Contractor must adhere to the rules governing subcontracting as set forth in the Subletting and Subcontracting Fair Practices Act, commencing with Public Contract Code §4100. Subcontractor substitutions must be in accordance with provisions of the Subletting and Subcontracting Fair Practices Act, beginning with Public Contract Code §4100. Violations of this Act by the Contractor may subject the Contractor to penalties and disciplinary action pursuant to the Subletting and Subcontracting Fair Practices Act.

B. The Contractor is responsible for all Work performed pursuant to the requirements of the Contract Documents, including Work Subcontracted to others. All persons engaged in the Work of the Project are the responsibility of and subject to the control of the Contractor.

C. No Subcontractor will be recognized as such, and all persons engaged in the Work will be considered as employees of Contractor who is responsible for their work, which is subject to all the provisions of the Contract Documents.

D. When any Subcontractor fails to execute a portion of the Work in a manner satisfactory to City, the Contractor must remove such Subcontractor immediately upon written notice from City, and the Subcontractor must not again be employed on the Project.

E. Although the Contract Documents are divided into Sections, Articles, Parts, Sub-Parts and Divisions, Sections, and Paragraphs, it is not intended to provide a basis for the Bidding, assignment, or performance of the Work. Contractor is fully responsible for assigning the Work to the various Subcontractors, Suppliers and vendors that will be bidding or performing the Work. The City will not entertain requests to arbitrate disputes among Subcontractors or between the Contractor and Subcontractor(s) concerning responsibility for performing any part of the Work.

5.02 SUBCONTRACTOR'S CONTRACTUAL OBLIGATIONS

A. By an appropriate agreement, Contractor shall require each Subcontractor, to the extent of that Subcontractor's work, to be bound to Contractor by the terms of the Contract, and to assume toward Contractor all the obligations and responsibilities which Contractor, by these Contract Documents, assumes toward City.

B. Said subcontracts and agreements must preserve and protect City's rights pursuant to the Contract with respect to the Subcontractor's or Suppliers Work so the subcontracting thereof will not prejudice such rights. Contractor must require each Subcontractor to enter into similar agreements with its Sub subcontractors.

C. Contractor must make available to each proposed Subcontractor and Supplier, prior to execution of the subcontract or agreement, copies of the Contract Documents to which the Subcontractor or Supplier will be bound and, upon written request of the Subcontractor or Supplier, identify to the Subcontractor or Supplier any terms and conditions of the proposed subcontract or agreement that may be at variance with the Contract. Each Subcontractor must similarly make copies of all such Documents available to its proposed Sub subcontractors.

D. The Contractor shall not employ any subcontractors that are not properly licensed in accordance with State law. Prior to commencement of any work by a subcontractor, the Contractor shall submit verification to the Construction Manager that the subcontractor is properly licensed for the work it will perform.

E. Each subcontract agreement shall expressly incorporate by reference the Contract Documents, including the following provisions:

   1. Each subcontractor shall carry insurance as required by the Contract Documents, and provide evidence of such insurance, as provided in Section 00700- Article 13, Insurance and Indemnification.

2. Each subcontractor shall be obligated to defend, indemnify, and hold harmless the City and additional insureds listed in Section 00700- Article 13, Insurance and Indemnification, from all claims arising from the subcontractor's portion of the Work in the same manner as Contractor.
3. Each subcontract shall include language assigning the subcontract to the City in the event City terminates Contractor. The assignment shall be effective at City's discretion. The Contractor hereby assigns to the City each Subcontract entered into by Contractor for performance of any part of the Work provided that:
    a. The assignment is effective only after the City's termination of the Contractor's right to proceed under the Contract Documents, (or portion thereof relating to that Subcontract), see Section 8.10, City's Right to Terminate Contract;
    b. The assignment is effective only for the Subcontracts which the City expressly accepts by notifying the Subcontractor in writing;
    c. The assignment is subject to the prior rights, if any, of the Surety, where the Surety exercises its rights to complete the Contract;
    d. After the effectiveness of an assignment, the Contractor shall, at its sole cost and expense, sign all instruments and take all actions reasonably requested by the City to evidence and confirm the effectiveness of the assignment to the City;
    e. Nothing in this paragraph shall modify or limit any of the Contractor's obligations to the City arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold harmless obligations arising from or related to the assigned Subcontract; and
    f. The City may accept the assignment at any time during the course of the Work and prior to Final Completion in the event of a suspension or termination of Contractor's rights under the Contract Documents. Such assignment is part of the consideration to the City for entering into the Contract with the Contractor and may not be withdrawn.

5.03 CONTROL OF SUBCONTRACTORS

A. Subcontractors will not be recognized as having a direct relationship with the City. The persons engaged in the work, including employees of subcontractors and suppliers, will be considered employees of the Contractor and their work shall be subject to the provisions of the Contract. References in the Contract Documents to actions required of subcontractors, manufacturers, suppliers, or any person other than the Contractor, the City or the Construction Manager shall be interpreted as requiring that the Contractor shall require such subcontractor, manufacturer, supplier or person to perform the specified action.

B. Contractor must:
    1. Schedule and coordinate the Work of all Subcontractors;
    2. Instruct all Subcontractors to consult with other Subcontractors to ascertain the locations of their various materials including stored materials and to familiarize themselves with their own material locations, making such changes as required to obtain the best results;
    3. Instruct all Subcontractors to schedule their Work and cooperate with the other Subcontractors to avoid delays, interferences, and unnecessary work, to conform to the schedule of operations as indicated in the Official Progress Schedule, and make Installations when and where directed.
    4. Make all necessary changes, including removing and reinstalling of materials, at their sole expense if they fail to check with other Subcontractors, and their Installed Work is later found to interfere with Work of other Subcontractors.
    5. Follow up to ensure that all Subcontractors install their Work when and where directed.

****END ARTICLE 5****

ARTICLE 6 - CONSTRUCTION BY CITY OR BY SEPARATE CONTRACTORS

6.01 CITY'S RIGHT TO PERFORM CONSTRUCTION AND AWARD SEPARATE CONTRACTS

A. City has the right to perform work at any time related to the Project with its own forces and/or to Award separate contracts in connection with other portions of the Project or other work on the Site pursuant to these or similar conditions of this Contract.

B. When separate contracts are awarded for different portions of the Project or other work on the Site, the term contractor in the Contract Documents in each case means the contractor who executes each separate City/Contractor Agreement.

6.02 COOPERATION WITH CITY'S FORCES AND OTHER CONTRACTORS EMPLOYED BY CITY

A. Unless otherwise indicated in the Contract Documents, City will provide for the coordination of the work of City's own forces and of each separate contractor with the Work of the Contractor, who must cooperate therewith as provided herein.

B. When Contractor and one or more other contractors are employed by City on related or adjacent work, Contractor must not cause any unnecessary delay or hindrance to the other contractors.

C. If the performance of the Work of this Contract is likely to be interfered with by the simultaneous performance of the work of some other separate contract or contracts, the City will decide which contractors or Contractor may proceed.

D. Contractor must accommodate City move-in activities including installation of Furniture, Fixtures, and Equipment by City or others.

6.03 MUTUAL RESPONSIBILITY

A. The Contractor must cooperate fully with City and all separate contractors including utility companies with regard to the execution of their Work as follows:

1. The Contractor must cooperate fully with City and all separate contractors with regard to introduction and storage of their materials and equipment.
2. The Contractor must coordinate with City, all separate contractors, and all utility companies with regard to construction scheduling, sequence of operations and Site access, all subject to approval of the City. Contractor must include activities in Contractor's Progress Schedule for all on-site activities performed by utility companies.
3. The Contractor must coordinate and accommodate the concurrent installation of inserts, hangers, blocking, and all other items or embeds to be installed by others within or upon the Contractor's Work. The Contractor must coordinate and schedule the concurrent installation of these items in such a manner to cause no Critical Path delay to its Work or the work of others.
4. The Contractor must properly connect the Work to the work of City or the separate contractors.
5. The Contractor must inspect the work of City or other contractors affecting the Work and promptly report to the City in writing irregularities or defects in the separate work that render it unsuitable for reception or connection of the Work.
6. Failure of the Contractor to inspect and report constitutes acceptance of the other work as fit and proper to receive the Work, except as to defects that may develop in the other work after execution of the Contractor's Work.

6.04 CITY'S RIGHT TO CLEAN UP

A. If a disagreement or Dispute arises among the Contractor, separate contractors and/or City as to the responsibility pursuant to their respective contracts for maintaining the Project Site and surrounding areas free from waste materials and rubbish, City may clean up or cause to be cleaned up the waste, materials, and rubbish and allocate the costs among those responsible, and deduct each contractor's share from progress payments due or to become due to each contractor.

****END ARTICLE 6****

ARTICLE 7 - CONTROL OF THE WORK AND MATERIALS

7.01 MEANS, METHODS AND APPLIANCES

A. The means, methods, and appliances adopted by the Contractor shall be planned and executed to produce the highest grade quality of work and will enable the Contractor to complete the Work in the time agreed upon. The City and Construction Manager shall not supervise, direct, or have control over, or be responsible for, Contractor's means, methods and appliances of construction or for the safety precautions and programs incident thereto, or for any failure of Contractor to comply with laws and regulations applicable to the furnishing or performance of Work. However, if at any time the means, methods and appliances appear inadequate or of inferior quality, the Construction Manager may order the Contractor to improve their character or efficiency, and the Contractor shall conform to such order; failure of the Construction Manager to order such improvement of methods of efficiency will not relieve the Contractor from its obligation to perform satisfactory work and to finish the Work in the time agreed upon.

B. The approval by the Engineer of any drawing or any method of work proposed by Contractor does not relieve Contractor of responsibility for any errors and is not an assumption of risk or liability by City or any City officer or employee. Contractor has no claim under the Contract on account of the failure or partial failure or inefficiency of any plan or method so approved. Such approval by the Engineer merely means that the Engineer has no objection to Contractor's using, at Contractor's sole responsibility and risk, the plan or method Contractor proposes.

C. Subject to the Contract Times specified in the Contract Documents, the Contractor is solely responsible for planning and scheduling the means, methods, and appliances to address weather conditions that may occur during the course of the Work. The Contractor is solely responsible for all costs to address such means, methods, and appliances and for the direct and indirect costs resulting from weather conditions

7.02 CONTRACTOR'S RESPONSIBILITY FOR WORK

A. Until the formal acceptance of the work by the City, the Contractor shall have the charge and care and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or non-execution of the work.

B. The Contractor shall rebuild, repair, restore and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense, except such injuries or damages occasioned by the acts of the Federal government or acts of war.

C. In case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the work as previously specified and shall also be responsible for all materials delivered to the work. Where necessary to protect the work from damage, the Contractor shall, at his own expense, provide suitable drainage of the worksite and erect such temporary structures as necessary to protect the work from damage during any period of suspension of work.

D. The Contractor shall provide twenty-four (24) hour emergency service for all maintenance and operations of the work specified and shall supply the City with the name and phone number of the responsible person. Emergency service shall be within thirty (30) minutes from the time of notification. If the Contractor fails to provide this service, the City shall perform such emergency service and the cost thereof shall be deducted from the next progress pay estimate due the Contractor.

7.03 SUPPLY OF SUFFICIENT WORKERS

A. The Contractor shall at all times employ qualified workers sufficient to prosecute the Work at a rate and in a sequence and manner necessary to complete the Work within the Contract Time(s). This obligation shall remain in full force and effect notwithstanding disputes or claims of any type. At any time during the progress of Work, should Contractor directly or indirectly (through subcontractors), refuse, neglect, or be unable to employ a sufficient number of qualified workers to prosecute the Work as required, then the City may require the Contractor to accelerate the Work and/or furnish additional qualified workers as City may consider necessary, at no cost to City.

B. If Contractor does not comply with the notice within five (5) days of date of service thereof. City shall have the right (but not a duty) to provide qualified workers to finish the Work or any affected portion of Work, as City may elect. City may at its discretion, exclude Contractor from the Site, or portions of the Site or separate Work elements during the time period that City exercises this right. City will deduct from moneys due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons doing Work. City will deduct from funds or appropriations set aside for purposes of Contract Documents, the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of City from claims of others.

C. Exercise by City of the rights conferred upon City in this Section 00700, General Conditions, is entirely discretionary on the part of City. City shall have no duty or obligation to exercise the rights referred to in Section 00700-7.03, Supply of Sufficient Workers, and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of City's right to exercise such rights in other concurrent or future similar circumstances. The rights conferred upon City under Section 00700-7.03, Supply of Sufficient Workers, are cumulative to City's other rights under any provision of the Contract Documents.

7.04 MATERIALS AND WORKMANSHIP

A. Unless otherwise indicated in these Specifications, or favorably reviewed by the Design Engineer, materials and equipment for the construction work shall be the best grade in quality of a manufacturer regularly engaged in the production of such materials and equipment or materials and equipment of comparable character. All materials must be of the specified quality and equal to approved samples, if samples have been submitted. All work shall be done and completed in the best workmanlike manner. All permanent materials and equipment shall be new unless otherwise specified.

B. All defective work or materials shall be promptly removed from the premises by the Contractor, whether in place or not, and shall be replaced or renewed in such manner as the Construction Manager may direct. All materials and workmanship of whatever description shall be subjected to the inspection of, and rejection by, the Construction Manager if not in conformance with the Contract Documents. The decision of the Construction Manager is final and conclusive upon the parties.

C. Unless otherwise stipulated in the Contract Documents, any defective material or workmanship, or any unsatisfactory or imperfect work which may be discovered before the final acceptance of the Work or within one (1) year thereafter, shall be corrected immediately upon the receipt of notice from the Construction Manager, without extra charge, notwithstanding that it may have been overlooked in previous inspections and estimates. Failure to inspect work shall not relieve the Contractor from any obligation to perform sound and reliable work as herein described.

D. In the event that the Contractor shall fail to comply with the conditions of the foregoing guarantee, and other contractual warranty provisions, within ten (10) calendar days' time after the date of written notification of the defect, the City shall have the right, but shall not be obligated to repair, or obtain the repair of, the defect and the Contractor shall pay to the City on demand all costs and expense of such repair. Notwithstanding anything herein to the contrary, in the event that any defect in workmanship or material covered by the foregoing guarantee results in a condition which constitutes an immediate hazard to the health or safety, or any property interest, or any person, the City shall have the right to immediately repair, or cause to be repaired, such defect, and the Contractor shall pay to the City on demand all costs and expense of such repair. The foregoing statement relating to hazards to health, safety or property shall be deemed to include either temporary or permanent repairs which may be required as determined in the sole discretion and judgment of the City.

7.05 USE OF MATERIALS FOUND ON THE PROJECT SITE

A. The City does not warrant the suitability of any native material on the Project Site for use in the Project. The Contractor, with the approval of the Engineer, may use in the proposed construction such stone, gravel, sand or other material as may be found on the Project Site and deemed suitable in the opinion of the Engineer. The Contractor shall replace at his own expense all of that portion of the material so removed and used with other suitable material. No charge for native materials so used will be made against the Contractor. The Contractor shall not excavate or remove any material from any roadway

location that is not within the excavation, as indicated by the slope and grade lines shown on the Contract Drawings, without written authorization from the Engineer.

7.06 EXISTING UTILITIES

A. General:

1. The location of known existing utilities and pipelines are shown on the Drawings in their approximate locations. However, nothing herein shall be deemed to require the City to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site of the Project can be inferred from the presence of other visible facilities, such as buildings, cleanouts, meter and junction boxes, on or adjacent to the Site of the Project.
2. The City will assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project Site if such utilities are not identified by the City in the Contract Documents or which cannot reasonably be inferred from the presence of other visible facilities.

B. Utility Relocation:

1. It shall be the Contractor's responsibility to determine the exact location and depth of all utilities, including service connections, which have been marked by the respective utility owners and which the Contractor believes may affect or be affected by the Contractor's operations. The Contractor shall not be entitled to additional compensation or time extensions for work necessary to avoid interferences nor for repair to damaged utilities if the Contractor does not expose all such existing utilities as required by this Section.
2. The locating of utilities shall be in conformance with California Government Code §4216 et seq. except for the City's utilities located on the City's property and not on public right-of-way.
3. A "High Priority Subsurface Installation" is defined in §4216 (j) as "high-pressure natural gas pipelines with normal operating pressures greater than 415kPA gauge (60 psig) or greater than six inches nominal pipe diameter, petroleum pipelines, pressurized sewage pipelines, high-voltage electric supply lines, conductors, or cables that have a potential to ground of greater than or equal to 60kv, or hazardous materials pipelines that are potentially hazardous to workers or the public if damaged."
4. A "Subsurface Installation" is defined in California Government Code §4216(s) as "any underground pipeline, conduit, duct, wire, or other structure, except non-pressurized sewer lines, non-pressurized storm drains, or other non-pressurized drain lines."
5. Pursuant to California Government Code §4216.2 the Contractor shall contact the appropriate regional notification center at least two (2) working days but not more than fourteen (14) calendar days before performing any excavation. The Contractor shall request that the utility owners conduct a utility survey and mark or otherwise indicate the location of their service. The Contractor shall furnish to the Construction Manager written documentation of its contact(s) with the regional notification center prior to commencing excavation at such locations.
6. After the utility survey is completed, the Contractor shall commence "potholing" or hand digging to determine the actual location of the pipe, duct, or conduit. The Construction Manager shall be given notice prior to commencing potholing operations. The Contractor shall uncover all piping and conduits, to a point one (1) foot below the pipe when required by the City, where crossings, interferences, or connections are shown on the Drawings, prior to trenching or excavating for any pipe or structures, to determine actual elevations. New pipelines shall be laid to such grade as to clear all existing facilities, which are to remain in service for any period subsequent to the construction of the run of pipe involved.
7. The Contractor's attention is directed to the requirements of California Government Code §4216.2 (c) which provides: "When the excavation is proposed within 10 feet of a high priority subsurface installation, the operator of the high priority subsurface installation shall notify the excavator of the existence of the high priority subsurface installation to set up an onsite meeting prior to the legal excavation start date and time or at a mutually agreed upon time to determine actions or activities required to verify the location and prevent damage to the high priority subsurface installation. As part of the meeting, the excavator shall discuss with the operator the method and tools that will be

used during the excavation and the information the operator will provide to assist in verifying the location of the subsurface installation. The excavator shall not begin excavating until after the completion of the onsite meeting." The Contractor shall notify the Construction Manager in advance of this meeting.

C. Utility Relocation and Repair:

1. If interferences occur at locations other than those indicated in the Contract Documents with reasonable accuracy, the Contractor shall notify the Construction Manager in writing. The Construction Manager will supply a method for correcting said interferences in accordance with the responsibilities of this Section and California Government Code §4215.
2. Care shall be exercised by the Contractor to prevent damage to adjacent existing facilities and public or private works; where equipment will pass over these obstructions, suitable planking shall be placed. If high priority subsurface installations are damaged and the operator cannot be contacted, the Contractor shall call 911 emergency services.
3. The City will compensate the Contractor for the costs of locating and repairing damage not due to the failure of the Contractor to exercise reasonable care, and for removing or relocating such main or trunk line utility facilities not indicated in the Contract Documents with reasonable accuracy, and for the cost of equipment on the Project necessarily idled during such work. The payment for such costs will be made as provided in Section 00700-Article 9, Changes in the Work. The Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay is caused by the failure of the City or utility company to provide for removal or relocation of such utility facilities. Requests for extensions of time arising out of utility relocation or repair delays shall be filed in accordance with Section 01324, Progress Schedules and Reports.
4. The public utility, where they are the owner of the affected utility, shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price. The right is reserved to the City and the owners of utilities or their authorized agents to enter upon the Work area for the purpose of making such changes as are necessary for the rearrangement of their facilities or for making necessary connections or repairs to their properties. The Contractor shall cooperate with forces engaged in such work and shall conduct its operations in such a manner as to avoid any unnecessary delay or hindrance to the work being performed by such forces and shall allow the respective utilities time to relocate their facility.
5. When the Contract Documents indicate that a utility is to be relocated, altered, or constructed by others, the City will conduct all negotiations with the utility company and the work will be done at no cost to the Contractor, unless otherwise stipulated in the Agreement.
6. Temporary or permanent relocation or alteration of utilities desired by the Contractor for its own convenience shall be the Contractor's responsibility and it shall make arrangements and bear all costs for such work.
7. All Underground Services Alert (USA) markings on concrete or asphaltic pavement or other structures shall be removed when they are no longer required. Acceptable means of removal include sand blasting or high pressure water blasting.

****END ARTICLE 7****

ARTICLE 8 - PROGRESS OF THE WORK AND TIME

8.01 COMMENCEMENT OF THE WORK

A. Within ten (10) calendar days after receipt of the required bonds and evidences of insurance and the executed Agreement from the Contractor, written Notice to Proceed will be given by the City to Contractor. Notwithstanding other provisions of the Contract, the Contractor shall not be obligated to perform work, and the City shall not be obligated to accept or pay for work performed by the Contractor, prior to Notice to Proceed. The Contractor shall provide the required Contract bonds and evidences of insurance prior to Notice to Proceed and commencing work at the Site.

B. The Contractor shall commence the Work covered by this Contract within ten (10) days after the date established in the Notice to Proceed for the commencement of Contract Time.

C. The Contractor shall give the Construction Manager written notice not less than two (2) working days in advance of the actual date on which the work will be started. The Contractor shall be entirely responsible for any delay in the work which may be caused by its failure to give such notice.

8.02 CONTRACT TIME

A. Time is of the essence in the performance of this Contract. The Contractor shall prosecute the work so that the various portions of the project shall be complete and ready for use within the time specified in Sections 00510, Agreement, and 00800, Supplementary General Conditions. It is expressly understood and agreed by and between the Contractor and the City that the Contract Time for completion of the Work described herein is a reasonable time taking into consideration the general climatic and economic conditions and other factors prevailing in the locality and the nature of the Work. The Contractor is hereby advised that the Contractor's Bid is to be based on the entire Contract Time and the Contractor shall include its field and home office overhead costs in the Bid for the entire Contract Time.

8.03 DELAYS

A. Notice of Delays

1. When the Contractor foresees a delay in the prosecution of the Work and, in any event, immediately upon the occurrence of a delay, the Contractor shall notify the Construction Manager in writing of the probability of the occurrence of the delay, and its cause. The Contractor shall provide this notice no later than five (5) calendar days after the occurrence of such delay, including weather delays as specified herein. The Contractor shall take immediate steps to prevent, if possible the occurrence or continuance of the delay. The Contractor agrees that no claim shall be made for delays which the Construction Manager is not notified of within the time specified herein. Contractor further agrees that Contractor shall not be permitted any additional time for completion of the Work or any additional compensation as a result of delay unless Contractor notifies the Construction Manager of the delay within the time specified herein.

B. Non-Excusable Delays

1. Non-excusable delays in the prosecution of the Work shall include delays which could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers. The Contractor shall receive no compensation or time extension for such delay.

C. Excusable Delays

1. Excusable delays in the prosecution or completion of the Work shall include delays to the Critical Path which result from causes beyond the control of the Contractor and City and which could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers. The Contractor shall receive no compensation for such delay.

    a. Abnormal Delays- Delays caused by a Force Majeure Event shall be considered as excusable delays insofar as they prevent the Contractor from proceeding with the Work for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule.

b. Weather Delays- Should inclement weather conditions or the conditions resulting from weather prevent the Contractor from proceeding with seventy five (75) percent of the normal labor and equipment force engaged in the current critical activity item(s), (as shown on the latest CPM Progress Schedule accepted by the Construction Manager), for a period of at least five (5) hours per day toward completion of such operation or operations, and the crew is dismissed as a result thereof, it shall be a weather delay day. An allowance of three (3) working days of weather caused delay have been included in the time allowed for completion. These weather days shall be included in the Contractor's schedule as specified in Section 01324-1.08, Weather Conditions and Weather Day Allowance.

c. Material Critical Supply Shortages- Upon the submission of satisfactory proof to the Construction Manager by the Contractor, Critical Supply Shortage of material may be acceptable as grounds for granting a time extension. See definition of Critical Supply Shortage in Article 1.02, Definitions of Words and Terms. A time extension for shortage of material will not be considered for material ordered or delivered late or whose availability is affected by virtue of the mishandling of procurement. The above provisions apply equally to equipment to be installed in the work.

D. Compensable Delays

1. Compensable delays in the prosecution or completion of the Work shall include delays that occur through no fault of the Contractor or its subcontractors and prevent the Contractor from proceeding with the Work for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule due to the following cause(s):

a. Delays due solely to the actions and/or inactions of the City.

b. Delays due to differing Site conditions as defined in Section 00700-9.02.G, Differing Site Conditions.

c. Delays due to other Contractors employed by the City who interfere with the Contractor's prosecution of the Work as defined above.

E. Concurrent Delays

1. Concurrent delays are those delay periods when the prosecution of the Work is delayed during the same period of time due to causes from a combination of the delays defined in Sections 00700-8.03.B, Non-Excusable Delays, 00700-8.03.C, Excusable Delays, or 00700-8.03.D, Compensable Delays. During such concurrent delay periods, time extensions will be granted in accordance with Section 00700-8.04, Time Extensions; however, the Contractor will be granted a non-compensable time extension, shall not be compensated for its overhead costs as defined in section 00700-8.05, Indirect Overhead and the City shall not assess its actual costs as defined in Section 00700-8.04.A, Non-Excusable Delays.

F. Critical Activity

1. The definition and application of the term "critical activity" and "critical path" as used in Section 8.03, Delays, and 8.04, Time Extensions, is specified in Section 01324, Progress Schedules and Reports.

8.04 TIME EXTENSIONS

A. Non-Excusable Delays

1. The City, at its sole option, may grant an extension of time for milestone or completion dates for non-excusable delays if the City deems it is in its best interest. If the City grants an extension of time for non-excusable delays, the Contractor agrees to pay the City's actual costs, arising from the delay, including charges for engineering, inspection, and administration incurred during the extension, as determined by City.

B. Excusable or Compensable Delays

1. If the Contractor is delayed in the performance of its work as defined in Sections 00700-8.03.C, Excusable Delays, or 00700-8.03.D, Compensable Delays, then milestone and Contract completion dates may be extended by the City for such time that, in the City's and Construction

Manager's determination, the Contractor's completion dates will be delayed, provided that the Contractor strictly fulfills the following:

a. The Contractor shall provide notification, in accordance with Paragraph 00700 8.03.A, Notice of Delays, and submit in writing a request for an extension of time to the Construction Manager stating at a minimum the probable cause of the delay and the number of days being requested. The time extension request shall be submitted in accordance with the requirements of Section 01324, Progress Schedules and Reports.

b. If requested by the Construction Manager, the Contractor shall promptly provide sufficient information to the Construction Manager to assess the cause or effect of the alleged delay, or to determine if other concurrent delays affected the Work.

c. Weather Delays. The Contractor will be granted a non-compensable time extension for weather caused delays, pursuant to Section 00700-8.03.C.1.b, Weather Delays, over and above an allowance as provided for in Section 01324, Progress Schedules and Reports.. No time extensions for weather delays will be granted until the total number of weather days exceeds this allowance. The provisions of paragraphs a. and b. above also apply to Weather Delays. Both the use of the Weather Day allowance and the granting of additional days to the Contract due to weather require an actual impact to the critical path as defined below and in Section 01324, Progress Schedules and Reports.

2. Should the Contractor fail to fulfill any of the foregoing, which are conditions precedent to the right to receive a time extension, the Contractor waives the right to receive a time extension.

3. During such extension of time, neither extra costs incurred by the City for engineering, inspection and administration nor damages for delay will be charged to the Contractor. It is understood and agreed by the Contractor and City that time extensions due to excusable or compensable delays will be granted only if such delays involve an impact to the Critical Path that would prevent completion of the whole Work within the specified Contract time. Attention is directed to Section 01324, Progress Schedules and Reports, regarding the use of float in the Project schedule as related to time extensions.

4. Should the Contractor fail to complete the Work within the time specified in the Contract, as extended in accordance with this Section if applicable, the Contractor shall forfeit and the City may recover liquidated damages in accordance with Section 00700-8.06, Liquidated Damages.

5. Upon Contractor’s submittal of satisfactory proof to Construction Manager of a Force Majeure event causing an unavoidable Controlling Operation delay, the delay shall be considered an Excusable Delay. Any claim by Contractor to classify a Force Majeure event as a Compensable Delay shall be handled pursuant to Article 11, Protests, Disputes and Claims. See definition of Force Majeure in Article 1.02, Definitions of Words and Terms.

8.05 INDIRECT OVERHEAD

A. The Contractor shall be reimbursed for indirect overhead expenses for periods of time when the Work is delayed as defined in Section 00700-8.03.D, Compensable Delays, only when such delay involves an impact to the Critical Path that would prevent completion of the whole Work within the specified Contract Time. However, no reimbursement for indirect overhead shall be made for compensable delays which occur during a concurrent delay as defined in Section 00700-8.03.E, Concurrent Delays. If it is mutually agreed that the allowable markups provided for in Section 00700-Article 9, Changes in the Work, do not provide equitable compensation for the Contractor’s indirect overhead expenses then the adjustments provided for under this Section shall be applied and the change order markups in 00700-Article 9, Changes in the Work, reduced to reflect the compensation provided by this Section. As a condition precedent to any reimbursement, the Contractor must fulfill all conditions as provided in Section 00700-8.04.B, Excusable or Compensable Delays. No additional markup for overhead or profit shall be provided for such indirect overhead expenses.

B. Payment to the Contractor for indirect overhead expenses will be made only if the extended Contract period granted for the compensable delay(s) is required to complete the work following the depletion of the original Contract period and any time extensions granted other than compensable time extensions.

C. Indirect Field Overhead

1. For those allowable delay periods as defined in Section 00700-8.05, Indirect Overhead, the Contractor shall be reimbursed for its indirect field overhead based on:

a. Actual invoice costs for on-Site field offices, storage vans and temporary utilities.

b. Actual labor costs, as determined consistent with Section 00700-9.03.A.1, Direct Field Labor for office staff labor.

c. Fair rental values acceptable to the Construction Manager as described in Section 00700-9.03.A.3, Construction Equipment, for construction equipment idled due to the delay.

8.06 LIQUIDATED DAMAGES FOR FAILURE TO MEET COMPLETION DATES

A. The City and the Contractor recognize that time is of the essence of this Agreement and that the City will suffer financial loss if the Work is not completed within the time specified in Sections 00510, Agreement, and 00800, Supplementary General Conditions, and required milestone work in Sections 00510 and 00800, herein, plus any extensions thereof allowed in accordance with Section 00700-8.04, Time Extensions. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage which the City will sustain in the event of and by reason of the Contractor's failure to fully perform the Work or to fully perform all of its contract obligations that have accrued by the time for completion as specified in Sections 00510 and 00800, herein and/or as specified for completion of any scheduled operations or works described in the Contract Documents. It is, therefore, agreed in accordance with California Government Code §53069.85 that the Contractor will forfeit and pay to the City liquidated damages in the amount set forth in Sections 00510 and 00800, per day for each and every calendar day that expires after the time for completion specified in Sections 00510 and 00800, herein and/or as specified for completion of any scheduled operations or works described in the Contract Documents, except as otherwise provided by extension of time pursuant to Section 00700-8.04, Time Extensions. It is further understood and agreed in accordance with California Government Code §53069.85 that the liquidated damages sum specified in this provision is not manifestly unreasonable under the circumstances existing at the time this Contract was made, and that the City may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the Contractor.

B. Liquidated damages will continue to accrue at the stated rate until Substantial Completion of the Work. Accrued liquidated damages may be deducted by the City from amounts due or that become due to the Contractor for performance of the Work.

8.07 LIQUIDATED DAMAGES FOR PUBLIC HARDSHIP, NEGATIVE IMPACT, AND DAMAGE TO EXISTING UTILITY MAINS

A. The liquidated damage provision described below is intended to compensate for the public hardship and negative impact resulting from the Contractor's failure to comply with specific construction constraints, which are difficult to quantify despite the definite impact to the City. The assessment of liquidated damages under this provision shall not preclude recovery by the City of other damages subject to reasonable quantification, including consequential damages. The liquidated damages are separate and distinct liability from any other damages that are subject to quantification resulting from such Contractor activities, for which the Contractor also shall remain liable. Consequential and other damages not provided for by this liquidated damages provision may include, but are not limited to, first- and third-party claims for personal injuries and/or property damages, inverse condemnation, environmental claims, or regulatory fees or fines imposed in whole or in part due to Contractor's acts or failures to act.

B. Liquidated damages shall be deducted from the progress payments or from any other monies due to or to become due the Contractor. If the payments due to the Contractor are less than the amount of such liquidated damages, the Contractor or its Surety shall pay the balance to the City.

C. The liquidated damages considered in this Section shall apply to the damages to the City that are difficult to quantify and that are caused by, among other causes, the Contractor's failure to comply with the following requirements:

1. Traffic Control.

2. Work Hours.
3. Site Cleanliness.
4. Public Notification.
5. Maintenance of Temporary Pavement.
6. Rights-of-Way Restrictions.

D. It is recognized that it is and will be impractical to ascertain and determine the exact amount of damages that the City will suffer as a result of the public hardship or negative impact. The factors relating to the impracticability of ascertaining a monetary value for such hardships or negative impacts include, but are not limited to, the fact that: (i) it is difficult to calculate all actual time spent by City staff, management, consultants, and other agency staff in dealing with the public hardship or negative impact; (ii) such public hardship or negative impact causes inconvenience, anxiety, and frustration to individual members of the general public in subjective ways and in varying degrees of intensity that bear on the City and that are incapable of measurement in precise monetary terms; (iii) the public hardship or negative impact is cumulative with each occurrence. Therefore, the Contractor and the City mutually agree that the amount set forth in Section 00800-1.2, Amount of Liquidated Damages, including the escalation amounts for repeated or protracted occurrences, is reasonable as a liquidated damage amount for each situation creating public hardship or negative impact. This liquidated damage provision is a separate and distinct liability from any other damages that are subject to quantification resulting from such Contractor activities, for which the Contractor also shall remain liable. Quantifiable damages may include, but shall not be limited to, repairs to damaged property, additional right-of-way compensation, or fines. Liquidated damages imposed shall be deducted from the progress payments or from any other monies due or to become due to the Contractor. If the payments due to the Contractor are less than the amount of such liquidated damages and actual damages, the Contractor or its Surety shall pay the balance to the City.

E. The Contractor shall be responsible for the discovery and protection of all existing underground utilities and installations in accordance with the Contract Documents.

F. If the Engineer determines that damage to an existing utility main is due to the Contractor's noncompliance with the Contract Documents, or inadequate effort in discovering or protecting the utility main lines, ducts, or cables (excluding service lines), the Contractor shall be responsible for the quantifiable City expenses and damages, including without limitation consequential damages, time and resources spent by City staff, management, and consultants in dealing with such utility damage and impacts, and any and all costs related to repairs by the utility, resulting from such damage to the utility.

8.08 ACCELERATION OF WORK

A. City reserves the right to direct the Contractor to accelerate performance of the Work or any portion of the Work. No action or direction of City other than an express written Order by the City's Representative to accelerate performance of the Work shall be construed by the Contractor to be direction to accelerate the Work.

B. If the Contractor believes that some action or inaction on the part of City constitutes an acceleration directive, the Contractor must immediately notify the City in writing that the Contractor considers the actions or inaction an acceleration directive. This written notification must detail the circumstances of the acceleration directive. Should the Contractor fail to provide timely written notice of any such acceleration directive prior to accelerating its performance of the Work, or any portion thereof, the Contractor waives the right to receive additional compensation for any acceleration costs incurred.

C. Contractor must keep Daily cost and other Project records related to the City's acceleration Directive separate from other Project costs and records, and must submit a written Daily record of acceleration cost to City at the end of each Day.

D. Allowable labor costs are limited to overtime or shift premium costs. Allowable equipment costs are only the cost of added equipment mobilized to the Site to accomplish the accelerated Work effort.

8.09 SUSPENSION OF WORK

A. If the Contractor fails to correct defective work as required by Section 00700-7.03, Supply of Sufficient Workers, or fails to carry out the Work in accordance with the Contract Documents or any other applicable rules and regulations, the City, by a written order of the City's representative or signed personally by an agent specifically so empowered by the City, in writing, may order the Contractor to stop the work, in its entirety or any portion thereof. In the event of a suspension of only a portion of the work, the Contractor is obligated to perform the portion of the work not suspended. The Suspension of Work shall remain in effect until the condition or cause for such order has been eliminated. The City's concurrence that the condition or cause has been eliminated will be provided to the Contractor in writing. This right of the City to stop and suspend the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other person or entity. All delays in the Work occasioned by such stoppage shall not relieve the Contractor of any duty to perform the Work or serve to extend the time for its completion. Any and all necessary corrective work done in order to comply with the Contract Documents shall be performed at no cost to the City.

B. In the event that a suspension of Work is ordered, as provided in this paragraph, the Contractor, at its expense, shall perform all work necessary to provide a safe, smooth, and unobstructed passageway through construction for use by public, pedestrian, and vehicular traffic, during the period of such use by suspension. Should the Contractor fail to perform the Work as specified, the City may perform such work and the cost thereof may be deducted from partial payments and/or final payment due the Contractor under the Contract.

C. The City shall also have authority to suspend the Work wholly or in part, for such period as the City may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the Work. Such temporary suspension of the Work will be considered justification for time extensions to the Contract in an amount equal to the period of such suspension if such suspended work includes the current critical activity on the latest favorably reviewed progress schedule. The Contractor as directed by the City shall comply with the provisions in Section 00700-8.09, Suspension of Work, above. Such additional work shall be compensated as provided for in Section 00700-Article 9, Changes in the Work.

8.10 CITY'S RIGHT TO TERMINATE CONTRACT

A. Termination for Default

1. If the Contractor refuses or fails to prosecute the Work or any separable part thereof with such diligence as will ensure its completion within the time specified herein, or any authorized extension thereof, or fails to perform the Work in a manner required by the Contract Documents and/or industry standards, or fails to complete such Work within such time as required under the Contract Documents or, if the Contractor should be adjudged as bankrupt, or is otherwise deemed insolvent by the City based on good cause and is unable to proceed with the Work, or if the Contractor should make a general assignment for the benefit of creditors, or if a receiver should be appointed on account of insolvency, or if the Contractor files a petition to take advantage of any debtor's act, or should any Subcontractor materially violate any of the provisions of the Contract Documents, or if the Contractor should persistently or repeatedly refuse or fail, except in cases for which an authorized extension of time is provided, to provide the required project management, supervision, quality control, and/or supply enough properly skilled workers or proper materials to complete the Work in the time specified, or if the Contractor should fail to make prompt payment to Subcontractors for material or labor, or if the Contractor should persistently disregard laws, or instructions given by City, or if the Contractor otherwise substantially fails to fulfill its obligations under the Contract Documents, the City may, without prejudice to any other right or remedy, serve written notice upon the Contractor and Sureties of the City's intention to terminate the Contractor's performance under the Contract Documents. Said notice shall contain the reasons for such intention to terminate the Contractor's performance under the Contract Documents, and unless, within ten (10) days after the service of such notice, such violations cease and/or satisfactory arrangements for the corrections thereof have been made, the City may terminate Contractor's performance under the Contract Documents and the Contractor shall not be entitled to receive any further payment until the Work is finished. Preliminary notice of any or all of the foregoing may be provided to the Surety by or on behalf of City so as to enable it to investigate the contentions

and project status so as to be poised to promptly respond, as required in the performance bond, to a declaration from the City declaring the right of the Contractor to proceed to be terminated due to default. Upon receipt of such notice the Surety on the performance bond shall investigate the contentions raised and keep a record of its investigation in its files for a period of no less than five (5) years following the notice.

2. In the event of any such termination, the City shall serve written notice thereof upon the Surety and Contractor, and the Surety shall have the right to take over and perform the Work. However, if the Surety, within five (5) days after the service of a notice of termination, does not give the City written notice of its intention to take over and perform the Work, the City shall serve a demand upon Surety that it perform its obligations under the Performance Bond. If within ten (10) calendar days after receipt of such demand Surety fails to take over the Work or otherwise perform under the Performance Bond, or if Surety serves such notice of its intent to take over and perform the Work and does not begin performance thereof within fifteen (15) days from the date of serving said notice, the City may take over the Work and prosecute the same to completion by contract or by any other method it may deem advisable for the account and at the expense of the Contractor, and the Sureties and/or Contractor shall be liable to the City for any excess cost or other damage incurred by the City thereby. In such an event, the City may without liability for so doing, take possession of and utilize such materials, tools, equipment, supplies and other property belonging to the Contractor and/or assume assignment of any and all subcontracts for subcontractors and/or suppliers that may be on the worksite and be necessary to complete the Work. For any portion of such Work that City elects to complete by furnishing its own employees, materials, tools, and equipment, the City shall be compensated in accordance with the schedule of compensation for force account work as stated in Section 00700-Article 9, Changes in the Work.
3. If the Surety assumes the Contractor's terminated Work, it shall take the Contractor's place in all respects for that part and shall be paid by City for all Work performed by it in accordance with the terms of the Contract Documents. If the Surety assumes the entire Contract, all money due the Contractor at the time of its default shall be payable to the Surety as the Work progresses, subject to the terms of the Contract Documents.
4. Contractor hereby consents to assigning to the City and/or City's replacement contractor all subcontracts and other agreements of any and all Subcontractors and/or suppliers that may be on the worksite and/or may be necessary to complete the Work in the event of Termination for Default or Termination for Convenience, as set forth below. Contractor agrees to obtain, by way of a subcontract provision, the consent of each and every Subcontractor and/or supplier for such assignment prior to the commencement of each such Subcontractor's and/or supplier's conduct of the Work.
5. In the event of such termination, the Contractor will be paid the actual amount due based on unit prices or lump sums Bid and the quantity of Work completed at the time of termination, less damages caused to the City by acts of the Contractor causing the termination, including but not limited to, all costs to the City arising from professional services and attorneys' fees and all costs generated to insure or bond the work of substituted Contractors or Subcontractors utilized to complete the Work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the City promptly upon demand. On failure of the Contractor to pay, the Surety shall pay on demand by City. Any portion of such difference not paid by the Contractor or Surety within thirty (30) days following the mailing of a demand for such costs shall earn interest at the maximum rate authorized by California law.
6. The Contractor and the City agree that nothing in this Section is intended to create a right of either party to recover attorney fees as prevailing party in any lawsuit on this Contract.
7. The foregoing provisions are in addition to and not in limitation of any other rights or remedies under law or in equity available to City.
8. If it is later determined by the City that the Contractor had an excusable reason for not performing, such as a fire, flood, or other event which was not the fault of or was beyond the control of the Contractor, the City, after setting up a new performance schedule, may allow the Contractor to continue Work, or treat the termination as a termination for convenience, and the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the City. If a Termination for Default is later determined to be wrongful,

unsubstantiated, or otherwise without just cause, such Termination for Default will be automatically converted to, and treated as, a Termination for Convenience, in accordance with Section 00700-8.10.B.

B. Termination for Convenience

1. The City may terminate the Contractor's performance under the Contract, either in whole or in part, at its own discretion or when conditions encountered during the Work make it impossible or impracticable to proceed, or when the City is prevented from proceeding with the Contract by act of God, by law, or by official action of a public authority, or upon a determination that such termination is in the best interest and convenience of the City, or whenever the City is prohibited from completing the Work for any reason. The City shall provide no less than ten (10) days written notice of its intent to terminate the Contract for convenience, and shall endeavor to provide the Contractor with consultation with the City prior to termination.
2. Upon receipt of such written notice of termination, the Contractor shall:
    a. Stop work as specified in the written notice;
    b. Terminate all orders and Subcontractors except as necessary to complete any portion of the Work that is not terminated;
    c. If directed in writing by the City to do so, assign all right, title and interest in subcontracts and materials in progress, in which case the City will have the right at its discretion to settle, or pay any or all claims arising out of the termination of such subcontractors, but in no event shall recovery by any Contractor include lost profits for uncompleted portions of the Work;
    d. Deliver or otherwise make available to the City all data, drawings, specifications, reports, estimates, summaries and such other information and material as may have been accumulated by the Contractor in performing the Work whether completed or in process;
    e. Settle outstanding liabilities and claims with the approval of City;
    f. Complete performance of such part of the Work as has not been terminated; and
    g. Take such other actions as may be necessary, or as may be directed by the City for the protection and preservation of the Work and/or property related to the Work.
        1) Upon receipt of City's written notice of termination for convenience, and within a period of 30 to 60 days, as determined by the City at the time of termination, the Contractor shall submit to the Construction Manager a Termination Proposal which shall include, but is not limited to, the Contractor's estimated costs to be incurred by the Contractor as a result of the termination for convenience, and as allowed by the Contract Documents, including all documentation to support such costs; the status of the Work at time of termination; the status of termination of the Contractor’s subcontractor(s) and supplier(s) agreement(s) including the amount of each such agreement, amount paid under each agreement up to the date of termination, and the amount that currently remains due and owing under each agreement for Work completed as of the date of termination, if any; a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Construction Manager; and any other information and/or documentation as required by City.
        2) Upon receipt of City's written notice of termination for convenience, the Contractor shall submit to the Construction Manager a request for final payment in accordance with the requirements of the Contract. Such request shall be submitted promptly, but no later than sixty (60) days from the effective date of the termination for convenience.
        3) The final payment to the Contractor after termination for convenience shall be limited to amounts due and owing under the Contract at time of termination, including the following:
            a) Any actual costs incurred by the Contractor for restocking charges;
            b) The agreed upon price of protecting the Work in any manner, if any, as directed by the City;
            c) The cost of settling and paying claims arising out of the termination of the Work under subcontract agreements or orders with the City's approval, as specified

above, exclusive of the amounts paid or payable on account of goods delivered or work furnished by a subcontractor prior to the effective date of the termination; and

d) The contract price allocable to the portion of the Work properly performed or goods supplied by the Contractor as of the date of termination, as determined in accordance with the Contract Documents, reduced by any sums previously paid to the Contractor.

3. The City shall have the right to withhold any portion or the whole of the final payment under this provision in the event there are any outstanding Claims for compensation asserted by the City against the Contractor, or by any third party against the City which arises out of the Contractor's work.

8.11 CONTRACTOR'S RIGHT TO TERMINATE

A. Upon ten (10) days written notice to the City, the Contractor may terminate this Agreement for any of the following reasons:

1. If the Work has been stopped for a one hundred and eighty (180) consecutive day period due to:
   a. A court order or order of other governmental authorities having jurisdiction; or
   b. As a result of the declaration of a national emergency or other governmental act during which, through no act or fault of the Contractor, materials are not available; or
   c. The City's failure to pay the Contractor in accordance with the Contract Documents; or
2. If the Work is suspended by the City, without cause attributable to the wrongful acts of Contractor, for one hundred and eighty (180) consecutive days.

B. The Contractor's exclusive remedy in the event of termination under Section 8.10, Contractor's Right to Terminate, shall be to recover from City payment on the same terms as provided in Section 8.09.B, Termination for Convenience, resulting from a properly noticed termination for the specific reasons allowed for in this Section 8.10, Contractor's Right to Stop Work or Terminate.

C. The provisions of this Section 8.10, Contractor's Right to Stop Work or Terminate, are not intended to preclude Contractor from making a Claim as provided for in the Contract Documents for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Section 8.10, Contractor's Right to Stop Work or Terminate.

****END ARTICLE 8****

ARTICLE 9 - CHANGES IN THE WORK

9.01 GENERAL

A. City may at any time, without notice to the Sureties, by written Order, make changes in the Work within the general scope of the Contract, including but not limited to additions, deletions or other revisions, changes in the Contract Documents and in the method and manner of performing the Work. Such changes will be ordered through a Field Directive, Field Order or Change Order . A Change Order may be bi-lateral, signed by both the City and Contractor or unilateral signed only by the City.

B. Any change in scope of Work or deviation from Contract Documents including, without limitation, extra Work, or alterations or additions to or deductions from the original Work, shall not invalidate the original Contract, and shall be performed under the terms of the Contract Documents. The difference in cost of the work affected by such change will be added to or deducted from the amount of said Contract price, as the case may be, by a fair and reasonable valuation, as outlined in this Section.

C. The prices agreed upon and any agreed upon adjustment in Contract Time shall be incorporated in the written order issued by the City, which shall be written so as to indicate an acceptance on the part of the Contractor as evidenced by its signature. By signature of the Change Order, the Contractor acknowledges that the adjustments to cost and time contained in the Change Order are in full satisfaction and accord, payment in full, and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by the Change Order.

D. Only Contractor or City may initiate changes in scope of Work or deviation from Contract Documents.

E. Timeline: Within fifteen (15) Days of receipt of a Request for Proposal (RFP) for a Potential Change Order (PCO) from the City, Contractor must submit in a format acceptable to the City, four (4) copies of Contractor's proposed cost and time estimates detailing the amount to be added to or deducted from the Contract Sum and Contract Time due to the proposed change. The Contractor's proposal must include:

   1. Detailed estimates and other documentation supporting the proposed cost; and
   2. Proposed adjustments of the Contract Time that is known by the Contractor to be directly or indirectly attributable to the proposed Change Order. All requests for adjustment to the Contract Time must be supported by a detailed schedule analysis as specified in Section 01324, Progress Schedule and Reports.

F. Failure to submit cost and time estimate: If Contractor fails to submit the required information and documentation within the 15-Day time limit, City has the right to issue a Unilateral Change Order. The Contract Sum and Contract Time will be changed in accordance with the City's estimate of cost and time, unless, within fifteen (15) Days following completion of the added Work or with written notice to delete portions of the Work, the Contractor submits to the City written proof that the City's estimate is in error.

G. If, after the Contractor has submitted their cost and time proposal, the City and the Contractor fail to successfully negotiate and agree on a time and/or cost for the proposed Change Order, the City may issue a Unilateral Change Order to the Contractor and the Contractor must proceed with the changed Work. If the Contractor disputes any portion of the unilateral Change Order, the Contractor must maintain time and materials records as specified in Section 00700-9.02.D, Field Order- Force Account Work. If the Contractor fails to maintain such records or fails to submit such records within fifteen (15) Days following completion of the added Work, City's estimate will be used for the purpose of final adjustment in Contract Time and Contract Sum.

H. Adjustment of the Contract Sum and/or Contract Time will be determined in accordance with Section 00700- Article 9, Changes in the Work.

I. Contractor's failure to provide a complete and timely notice of change/delay and/or Change Order request, or to comply with any other requirement of this Article, shall constitute a waiver by Contractor of the right to a contract adjustment on account of such circumstances and a waiver of any right to further recourse or recovery by reason of or related to such change by means of the claims dispute resolution process or by any other legal process otherwise provided for under applicable laws.

9.02 CONTRACT MODIFICATION PROCEDURES AND TIMELINES

A. Field Directive:

1. The Contractor may be issued a Field Directive.
2. If Contractor is satisfied with the Field Directive and does not request change in Contract Sum or Contract Time, then the Field Directive shall be executed without a Change Order.
3. If Contractor believes the Field Directive results in a change to Contract Sum or Contract Time, then Contractor must notify the Construction Manager with seven (7) days following receipt of Field Directive. Contractor shall proceed with executing work described in the Field Directive regardless of time or cost impacts, which are to be evaluated subsequent to or concurrently with field directive work. A proposed change order may be issued for the City's consideration for any resulting time or cost impacts which are outside of the project scope of work. The Contractor shall within fifteen (15) days from the date of notification provide detailed justification and analysis as well as complete pricing and schedule CPM fragmentary network to support any request for time extension.
4. Should the Contractor proceed with the work affected before receipt of a response from the Construction Manager, any portion of the work which is not done in accordance with the City's interpretation, clarifications, instructions, or decisions shall be subject to removal or replacement and the Contractor shall be responsible for all losses.
5. If the parties are unable to agree on the Field Directive's impact to the Contract Sum or Contract Time, then Contractor may file a Claim in accordance with Section 00700- Article 11, Protests, Disputes and Claims.

B. Request for Proposal (RFP) for a Potential Change Order (PCO)

1. A request for a proposed cost made to the Contractor by the City to add, delete or change the Work. RFP's shall not be deemed to be directions to proceed with any addition, deletion or change to the Work.
2. Whenever Contractor is required to prepare a Cost Proposal, and whenever Contractor is entitled to submit a Cost Proposal and elects to do so, Contractor shall prepare and submit to City for consideration. All Cost Proposals must contain a complete breakdown of costs of credits, deducts, and extras; and itemize materials, labor, equipment, special services, taxes, overhead and profit. All Subcontractor Work shall be so indicated. Individual entries on the Cost Proposal form shall follow the cost items defined in Cost Determination in this Section. The Contractor shall provide all required information requested in the RFP no later than fourteen (14) days after receiving the RFP.
3. Upon receipt of a Cost Proposal with a detailed breakdown as prescribed herein this Section, the Construction Manager will act promptly thereon. If Construction Manager accepts a Cost Proposal, Construction Manager will prepare a Change Order for City and Contractor signatures. If Cost Proposal is not acceptable to Construction Manager because it does not agree with cost and/or time included in Cost Proposal, Construction Manager will submit in a response what it believes to be a reasonable cost and/or adjustment, if any. Except as otherwise provided in this Section, Contractor shall have seven (7) days in which to respond to Construction Manager with a revised Cost Proposal.
4. If the parties do not agree on the price or time for an RFP, City may either issue a Unilateral Change Order pursuant to Section 00700-9.02.C, Unilateral Change Orders, as defined below. Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.
5. When necessity to proceed with a change does not allow the Construction Manager sufficient time to conduct a proper check of a Cost Proposal (or revised Cost Proposal), Construction Manager may order Contractor to proceed on basis to be determined at earliest practical date. In this event, value of change, with corresponding equitable adjustment to Contract, shall not be more than increase or less than decrease proposed.

C. Unilateral Change Orders:

1. If at any time City believes in good faith that a timely Bilateral Change Order will not be agreed upon using the procedures in this Article, City may issue a Unilateral Change Order with its recommended cost and/or time adjustment. Upon receipt of the Unilateral Change Order, the Contractor shall promptly proceed with the change of Work involved and concurrently respond to City's Unilateral Change Order within ten (10) calendar days.
2. Contractor's response must be any one of following:
    a. Return Unilateral Change Order signed, thereby accepting City's response, time, and cost.
    b. Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by letter A, B, etc. for each revision), if City so requests.
    c. Give notice of intent to submit a Claim as described in Section 00700-11.03, Notice of Potential Claim.
3. If the Unilateral Change Order provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
    a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
    b. Unit prices stated in the Contract Documents or subsequently agreed upon.
    c. Cost to be determined in a manner agreed by the City and Contractor.
4. A Unilateral Change Order signed by Contractor indicates the agreement of Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.
5. If Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by Construction Manager on the basis of reasonable expenditures and savings of those performing the Work attributable to the change including, in case of an increase in the Contract Sum, an allowance for overhead and profit in accordance with 00700-9.03.B, Mark-Up Allowances. If the parties still do not agree on the price for a Unilateral Change Order, Contractor may file a Claim in accordance with Section 00700-Article 11, Protests, Disputes and Claims. Contractor shall keep and present, in such form as Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided in Section 00700-9.03, Cost Determination.
6. Pending final determination of cost to City, amounts not in dispute may be included in Applications for Payment.

D. Field Order- Force Account Work

1. If either the amount of work or payment for a Change Order cannot be determined or agreed upon beforehand, the City may direct by written Change Order or Field Order that the work be done on a force account basis. The term "force account" shall be understood to mean that payment for the work will be done on a time and expense basis, that is, on an accounting of the Contractor's forces, materials, equipment, and other items of cost as required and used to do the work. For the work performed, payment will be made for the documented actual cost of the work as described in Section 00700-9.03, Cost Determination.
2. Prior to the commencement of force account work, the Contractor shall notify the Construction Manager of its intent to begin work. Labor, equipment and materials furnished on force account work shall be recorded daily by the Contractor using a City supplied form or equivalent form approved by the Construction Manager. The reports, if found to be correct, shall be signed by both the Contractor and Construction Manager, or inspector, and a copy of which shall be furnished to the Construction Manager no later than the working day following the performance of said work. The Daily Extra Work Report sheet shall thereafter be considered the true record of force account work provided. If the Construction Manager, or inspector, do not agree with the labor, equipment and/or materials listed on the Contractor's daily force account report, the Contractor and

Construction Manager, or inspector, shall sign-off on the items on which they are in agreement. The Construction Manager shall then review the items of disagreement and will advise the Contractor, in writing, of its determination. If the Contractor disagrees with this determination, it shall have the right to file a claim notice as provided in Section 00700- Article 11, Protests, Disputes and Claims.

3. The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of work paid for on a force account basis and the costs of other operations.
4. To receive partial payments and final payment for force account work, the Contractor shall submit, in a manner approved by the Construction Manager, detailed and complete documented verification of the Contractor's and any of its subcontractor's actual costs involved in the force account pursuant to the pertinent Change Order or Field Order. Such costs shall be submitted within thirty (30) days after said work has been performed. No payments will be made for work billed and submitted to the Construction Manager after the thirty (30) day period has expired.
5. The force account invoice shall itemize the materials used and shall cover the direct costs of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces. The invoice shall be in a form acceptable to the Construction Manager and shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Material charges shall be substantiated by vendor's invoices acceptable to the Construction Manager.

E. Unit Price Work

1. Contractor must include in each unit price an amount considered by Contractor to be adequate to cover all Contractor’s costs plus overhead and profit for each separately identified unit price item.
2. If there is any variance of less that twenty-five percent (25%) between the City’s estimated number of units of Work stated on the Section 00400, Bid Form, Bid Schedule and the actual number of units of authorized Work performed, there shall not be an adjustment of unit prices by reason of overruns or underruns; each unit of authorized Work performed will be paid for at the Contract unit price for that item of Work.
3. If the final quantity of any item of authorized Work varies from the City’s estimated quantity for that item of Work by twenty-five percent (25%) or more, the unit price for that item of work will be adjusted by Change Order.
4. All changes in Contract Sum and Contract Time due to quantity variations in unit price Work accepted by City's Representative are subject to approval by the City Engineer upon completion of the Contract by approval of a final balancing Change Order.
5. See Section 00700-9.04, Increased or Decreased Quantities for further Unit Price requirements.

F. Deleted Work

1. When Work is deleted, the City is entitled to a credit for the deleted Work.
2. The adjustment to the Contract Sum for deleted Work will be computed in accordance with Section 00700-9.02, Contract Modification Procedures and Timelines.
3. If Contractor has ordered acceptable material for the deleted Work before the date of notification of such deletion by City, and if orders for such material cannot be canceled, such material will be paid for by City at Contractor’s actual cost. In such case, the material paid for will become City’s property and City will pay the actual cost of any further handling. If the material is returnable to the vendor and if City so Directs, Contractor must return the material and City will pay the actual costs of returning the material, including reasonable and verifiable handling and restocking charges. The actual costs or charges to be paid by City to Contractor for deleted materials as provided in this paragraph will be computed in the same manner as if the Work were to be paid for on a Force Account basis as provided in Section 00700-9.02.D, Field Order-Force Account Work with a mark-up for deleted work as provided in Section 00700-9.03.B.4.

G. Differing Site Conditions

1. Contractor must immediately, and in any event no later than twenty-four (24) hours after discovery, and before such conditions are disturbed, notify City in writing of:
    a. Material that the Contractor believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law
    b. Subsurface or latent physical conditions at the Project Site which Contractor asserts differ materially from those indicated in the Contract Documents; or
    c. Unknown physical conditions at the Project Site, of an unusual nature, which Contractor asserts differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract.
2. City will promptly investigate the conditions. If City finds that such conditions do materially differ, or do involve hazardous waste, and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work pursuant to this Contract, whether or not changed as a result of such conditions, an equitable adjustment will be made in accordance with Section 00700- Article 9, Changes in the Work.
3. Contractor shall submit Notices of Hazardous Waste Conditions to resolve problems regarding hazardous materials encountered in the execution of the Work pursuant to Section 00700-9.02.G, Differing Site Conditions, which shall govern.
4. Contractor has no right to an adjustment in Contract Sum or Contract Time pursuant to this Section 00700- 9.02.G, Differing Site Conditions, unless Contractor submitted the notice required in Section 00700-8.03.A, Notice of Delays, except that City may extend the notification time upon Contractor's written request in order to obtain additional relevant information.
5. In the event that a dispute arises between the City and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the parties.
6. Contractor has no right to an adjustment in Contract Time or Contract Sum after accepting Final Payment pursuant to this Contract.

H. Contractor Cost Reduction Proposals: See 00700-9.08, Cost Reduction Incentive, below for procedures on Cost Reduction Proposals, also known as Value Engineering Proposals.

I. All Changes

1. Upon request of the Construction Manager, the Contractor shall provide the following information to support the request for change in cost:
    a. Copy of original quotations, purchase orders or invoices to verify costs included in original bid.
    b. Copy of all quotations, purchase orders or actual invoices to support new costs submitted.
    c. Copy of all subcontracts.
    d. Copy of all employee time records and wage rates paid.
    e. Copy of all insurance and bond costs resulting from change.
    f. Copy of all quantity takeoff sheets for materials, labor and equipment.
    g. Certified payroll records.
    h. Certified composite wage rate statements including employees' base rate and Contractor's contributions for fringe benefits, subsistence and travel.

i. A list of equipment with manufacturer's name and model number and the alphanumeric designation used in the Equipment Rental Rates prepared by the California Department of Transportation.

j. Invoices for all rental equipment.

k. Other information, as required, to document the labor, equipment and materials used.

2. 0700-9.05, Cost Pricing Data and Access to Records, provides expanded Contractor requirements regarding providing access to cost pricing data and related change records.

3. Correlation of Other Items:

a. Contractor shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order, Unilateral Change Order, or Field Order as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.

b. Contractor shall revise the Progress Schedules prior to the next monthly pay period to reflect the effects of all authorized Change Order, Unilateral Change Order, or Field Order.

c. Contractor shall enter changes in Project Record Documents prior to the next monthly pay period.

9.03 COST DETERMINATION

A. Direct Cost Categories: The categories described below are defined to be direct costs. No other type of costs will be allowable as a direct cost. Direct costs shall not include any labor costs or indirect costs pertaining to the Contractor's and subcontractor's managers or superintendents, their office and engineering staffs, the cost of their offices, facilities, vehicles, or anyone not directly employed on such work, nor small tools (as defined in item 3.c below) and supplies. All such items are considered indirect costs which form a part of the Contractor's and subcontractors' overhead expenses. The City reserves the right to furnish such labor, materials and equipment as it deems expedient, and the Contractor shall have no claim for profit or added fees on the cost of such items.

1. Direct Field Labor:

a. The cost of labor for workers (including forepersons when authorized by the Construction Manager) used in actual and direct performance of the work by the Contractor will be the sum of the following:

1) The actual wages paid plus any employer payments to, or on behalf of workers for fringe benefits including health and welfare, pension, vacation and similar purposes.

2) All payments imposed by State and Federal Laws including, but not limited to, workers' compensation insurance, and social security payments. The rates used for workers' compensation insurance shall be actual rates paid by the Contractor for each specific craft and broken down by wage rate if applicable to that craft.

3) Liability insurance burden applied to Contractor's payroll. Contractor shall provide adequate backup information to Construction Manager to verify this burden rate is indicative of the actual rates paid by the Contractor as a percent of labor.

b. Except as otherwise may be agreed to in writing by the Construction Manager, the actual wages and benefits paid for manual classifications of Contractor's on-site workers will not, in the aggregate, be more than the current applicable wage for each classification as established by the State of California Director of Industrial Relations.

c. Specifically prohibited from the labor costs are other payroll burden factors such as small tools (as defined in item 3.c below), bonuses of any kind and safety incentives.

d. Contractor shall include the actual travel and/or subsistence costs, if any, as a separate line item under the labor cost category. Except as otherwise may be agreed to in writing by the Construction Manager, the actual travel and/or subsistence costs will not be more than established in an applicable Master Labor Agreement or the State of California Director of Industrial Relations.

e. Within fifteen (15) days following Notice to Proceed date, the Contractor shall submit to Construction Manager for approval a breakdown of labor costs as allowed herein for each

expected craft used in the Work showing straight time and overtime rates. These rates would be good during defined period for each craft until wages are changed by the either Union Master Labor Agreements, if Contractor is signatory, or the Department of Industrial Relations.

f. Contractor shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order, Unilateral Change Order, or Field Order as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.

g. Contractor shall revise the Progress Schedules prior to the next monthly pay period to reflect the effects of all authorized Change Order, Unilateral Change Order, or Field Order.

h. Contractor shall enter changes in Project Record Documents prior to the next monthly pay period.

2. Materials

a. The cost of all materials, including all factory testing, freight and delivery costs of materials, accepted by the City and used in performing the work will be the cost to the Contractor from the supplier thereof. All discounts for early payment shall accrue to the Contractor unless the City's payment to Contractor is paid to Contractor before discount payment is due in which case discount savings will be fully credited to City on next progress billing. All rebates and all returns from the sale of surplus materials shall be credited to the Cost of the Work.

b. For materials used in construction of the Project which may have additional uses on other projects for the Contractor's benefit, such as dimensional lumber, beams and plywood to form concrete or temporary diversion pipes, the Contractor shall submit a material unit cost to cover use of these types of materials for the approval of the City prior to delivery to the Work Site. This unit cost shall take into account the use of such materials on other past and future projects.

3. Construction Equipment

a. The cost of construction machinery and equipment for changes shall be based on fair rental cost or equivalent rental cost of owned equipment. Such costs will be allowed for only those days or hours during which the equipment is in actual use. Payment shall be based on actual rental and transportation invoices but shall not exceed the rental rates listed for such equipment in the State of California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates" which is in effect on the date upon which the work is performed.

b. City-operated equipment rates shall not exceed the rates in the aforesaid Rental Rate publication plus the labor costs as provided in Section 00700-9.03.A.1, Direct Field Labor. The rental cost allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, ownership, and incidental costs and no further allowances will be made for those items, unless specific written agreement to that effect is made. Compensation for idle time of equipment through delays caused by the City will be made consistent with Section 8-1.09, Right of Way Delays, of the Caltrans Standard Specifications.

c. Individual items of construction equipment or small tools which have a replacement value of $500 or less shall not be charged to the Change Order work unless it can be demonstrated that the particular item is needed solely for the completion of the Change Order work.

d. Within fifteen (15) days following Notice to Proceed date, the Contractor shall submit to Construction Manager for approval a list of hourly rates for equipment owned by the Contractor and expected to be used in the Work.

4. Special Services

a. When the Construction Manager and the Contractor, by agreement, determine that special service or item of extra Work cannot be performed by forces of the Contractor or those of any Subcontractors, service or extra Work item may be performed by a specialist. These types of services will be paid based on an agreed upon current market rate.

B. Mark-up Allowances: The Contractor and subcontractors shall be entitled to compensation for indirect field and home office overhead costs, and profit for Change Order work. This compensation shall be in

the form of markup percentages applied to the direct cost of the Change Order work, as further described below. The maximum markup which will be allowed for the Contractor's combined overhead and profit will be:

1. For work by its own organization, the Contractor may add up to the following percentages:

Direct Cost Category	All Work except by Force Account	All Force Account Work
Direct Field Labor	25%	20%
Materials	10%	10%
Construction Equipment	15%	15%
Special Services	5%	5%

2. For all such work performed by subcontractors, such subcontractor may add the same percentages as the Contractor as listed in B.1 above to its actual net increase in costs for combined overhead and profit. The Contractor may add up to five percent (5%) of the subcontractor's total for its combined overhead and profit. No further compensation will be allowed for the Contractor's administration of the work performed by the subcontractor.
3. For all such work done by subtier-subcontractors, such sub-subcontractors may add the same percentages as the Contractor as listed in B.1 above to its actual net increase in costs for combined overhead and profit. The subcontractor may then add up to five percent (5%) of the sub-subcontractor's total for its combined overhead and profit. The Contractor may add up to five percent (5%) of the subcontractor's total for its combined overhead and profit. No further compensation will be allowed for the subcontractors' and Contractor's administration of the work performed by the subtier-subcontractor. No additional mark-ups will be allowed for further tiered subcontracts.
4. For Deleted Work: When work is deleted, the City is entitled to a credit for the deleted work. The credit must include direct labor, materials, equipment, and special services as defined above plus overhead and profit of the Contractor and Subcontractor, as applicable to deleted Work. Deleted overhead and profit shall be computed as five percent (5%) of the direct labor, materials, equipment, and special services as defined above. For example, if a $10,000 direct cost item of Work is deleted, the credit to the City would be $10,500. The Contractor shall not be entitled to nor claim for anticipated profits on work that may be deleted.
5. For combinations of Added and Delete Work: The costs before markups of added and deleted Work must be separately estimated. If the difference between such costs results in an increase, the markups for added Work will be applied to such difference. If the difference in such costs results in a decrease, the markups for deleted Work will be applied to such difference.
6. To the total of the actual costs and fees allowed herein for both Added and Deleted work, not more than two and one half percent (2.5%) shall be added for additional bond and builder’s risk insurance. The compensable percentage for additional bonds and insurance shall be based on the Contractor's actual costs, as substantiated through documentation submitted to the Construction Manager.
7. The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, small tools, incidentals and any other general expenses. The above fixed fees represent the maximum limits which will be allowed, and they include but are not limited to the Contractor's and all subcontractors' indirect field and home office expenses and all other costs for cost proposal preparation, schedule analysis and preparation, operation and maintenance manual documentation, and record documents and change order administration.

9.04 INCREASED OR DECREASED QUANTITIES

A. General:

1. Increases or decreases in the quantity of a Contract unit price bid item of work will be determined by comparing the total pay quantity of such item of work with the Bid Schedule quantity.

2. If the total pay quantity of any item of work required under the Contract varies from the Section 00400, Bid Form, Bid Schedule quantity by twenty-five percent (25%) or less, payment will be made for the quantity of work of said item performed at the Contract unit prices therefor, unless eligible for adjustment pursuant to Section 9.04, Increased or Decreased Quantities.
3. If the total pay quantity of any item of work required under the Contract varies from the Bid Schedule quantity by more than twenty-five percent (25%), in the absence of an executed Contract change order specifying the compensation to be paid, the compensation payable to the Contractor will be determined in accordance with 9.04.E, Changes in the Character of the Work.

B. Increases of More Than 25 Percent:

1. Should the total pay quantity of any item of work required under the Contract exceed the Bid Schedule quantity by more than twenty-five percent (25%), the work in excess of 125 percent of the Bid Schedule quantity will be paid for by adjusting the Contract unit price, as hereinafter provided. At the option of the Construction Manager, payment for the work involved in such excess will be made on the basis of force account as provided by Section 00700-9.02.D, Field Order-Force Account Work.
2. Such adjustment of the Contract unit price will be the difference between the Contract unit prices and the actual unit costs, which will be determined as hereinafter provided, of the total pay quantity of the item. If the costs applicable to such item of work include fixed costs, such fixed costs will be deemed to have been recovered by the Contractor by the payments made for 125 percent of the Bid Schedule quantity for such item, and in computing the actual unit cost, such fixed costs will be excluded. Subject to the above provisions, such actual unit cost will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 00700-9.02.D, Field Order-Force Account Work, or such adjustment will be as agreed to by the Contractor and the Construction Manager.
3. When the compensation payable for the number of units of an item of work performed in excess of 125 percent of the Bid Schedule quantity is less than $5,000 at the applicable Contract unit price, the Construction Manager reserves the right to make no adjustment in said price if it so elects, except that an adjustment will be further considered if requested in writing by the Contractor.

C. Decreases of More Than 25 Percent:

1. Should the total pay quantity of any item of work required under the Contract be less than seventy-five percent (75%) of the Bid Schedule quantity, an adjustment in compensation pursuant to this Section will not be made unless the Contractor so requests in writing. If the Contractor so requests, the revised quantity will be paid for by adjusting the Contract unit price as hereinafter provided. At the option of the Construction Manager, payment for the quantity of the work of such item performed will be made on the basis of force account as provided in Section 00700-9.02.D, Field Order-Force Account Work. However, in no case shall the payment for such work be less than that which would be made at the Contract unit price.
2. Such adjustment of the Contract unit price will be the difference between the Contract unit price and the actual unit cost of the total pay quantity of the item, including fixed costs. Such actual unit cost will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 00700-9.02.D, Field Order-Force Account Work; or such adjustment will be as agreed to by the Contractor and the Construction Manager.
3. The payment for the total pay quantity of such item of work will in no case exceed the payment which would have been made for the performance of seventy-five percent (75%) of the Bid Schedule of the quantity for such item at the original Contract unit price.

D. Eliminated Items Covered by Unit Prices:

1. In the event that a part of the Work is to be eliminated in its entirety and such Work is covered by unit price(s) contained in the Bid and/or Contract Documents, the price of the eliminated Work item shall be based on the applicable unit price(s). The unit price includes compensation for all Contractor’s field and home office overhead costs and no further mark-ups will be allowed.

2. Should any Contract item of the Work be eliminated in its entirety, in the absence of an executed Contract change order covering such elimination, payment will be made to the Contractor for actual costs incurred in connection with such eliminated Contract item if incurred prior to the date of notification in writing by the Construction Manager of such elimination.

3. If acceptable material is ordered by the Contractor for the eliminated item prior to the date of notification of such elimination by the Construction Manager, and if orders for such material cannot be canceled, it will be paid for at the actual cost. In such case, the material paid for shall become the property of the City and the actual cost of any further handling will be paid for. If the material is returnable to the vendor and if the Construction Manager so directs, the material shall be returned and the Contractor will be paid for the actual costs of charges made by the vendor for returning the material. The actual cost of handling returned material will be paid for by the City. In addition for payment for actual material and handling charges, the Contractor shall be paid five percent (5%) for the eliminated Work item in consideration of the applicable Contractor's overhead costs.

E. Changes in Character of Work:

1. If an ordered change in the Plans and Specifications materially changes the character of work of a Contract unit price bid item from that on which the Contractor based its Bid price, and if the change increases or decreases the actual unit cost of such changed item as compared to the actual or estimated actual unit cost of performing the work of said item in accordance with the Plans and Specifications originally applicable thereto, in the absence of an executed Contract change order specifying the compensation payable, an adjustment in compensation therefor will be made in accordance with the following:

2. The basis of such adjustment in compensation will be the difference between the actual unit cost to perform the work of said item or portion thereof involved in the change as originally planned and the actual unit cost of performing the work of said item or portion thereof involved in the change, as changed. Actual unit costs will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 00700-9.02.D, Field Order-Force Account Work; or such adjustment will be agreed to by the Contractor and the Construction Manager. Any such adjustment will apply only to the portion of the work of said item actually changed in character. At the option of the Construction Manager, the work of said item or portion of item which is changed in character will be paid for by force account as provided in Section 00700-9.02.D, Field Order-Force Account Work.

3. If the compensation for an item of work is adjusted under this Section, the costs recognized in determining such adjustment shall be excluded from consideration in making an adjustment for such item of work under the provisions in this Section 9.04.B, Increases of More Than 25 Percent, and 9.04.C, Decreases of More Than 25 Percent.

9.05 COST PRICING DATA AND ACCESS TO RECORDS

A. All cost and pricing data submitted by the Contractor with respect to any change, prospective or executed, or any claim for extra compensation shall be a true, complete, accurate and current representation of actual cost and pricing of the work. The Construction Manager may require a formal certification as to cost and pricing data submitted by the Contractor.

B. The Construction Manager shall have access, upon reasonable notice during normal business hours, to any books, documents, accounting records, papers, project correspondence, project files, scheduling information and other relevant records of the Contractor and all subcontractors directly or indirectly pertinent to the work, original as well as changes and claimed extra work, and the Contract for the purpose of making audit, examination, excerpts and transcriptions and in order to verify or evaluate any change, prospective or executed, or any claim for which compensation has been requested or notice of potential claim has been tendered.

C. Such books, documents, and other records mentioned above shall include, but are not limited to all those reasonably necessary to determine the accurate amount of direct and indirect costs, job Site, and delay and impact costs, however characterized, and shall include the original Bid and all documents related to the Bid and its preparation, as well as, the as-planned construction schedule and all related documents.

D. Such access shall include the right to examine and audit such records and make excerpts, transcriptions, and photocopies at the City's cost.

9.06 TIME EXTENSIONS FOR CHANGE ORDERS

A. If the Contractor requests a time extension for the extra work necessitated by a proposed Change Order, the request must comply with the applicable requirements of this Section 00700 and Section 01324, Progress Schedule and Reports.

9.07 CONTRACTOR'S ACCEPTANCE OF CHANGE ORDERS

A. Contractor's written acceptance of a Change Order constitutes final and binding agreement to the provisions thereof and a waiver of all Claims in connection therewith, whether direct, indirect or consequential. Pursuant to California Public Contract Code §7100, Contractor may specifically exclude individual Change Order items from operation of the Contractor's written acceptance of the Change Order and waiver of all Claims in connection therewith. A general statement that the Contractor reserves their right to Claim additional time and/or money at a future date for all Work associated with the Change Order is not permitted.

B. If Contractor disagrees with any terms or conditions of a Change Order, Contractor must sign it with the statement "Signed Under Protest" and attach a written statement detailing the basis of the disagreement.

C. The written statement detailing the basis of the disagreement must specifically identify each item to be excluded from the Contractor's waiver and state why the Contractor is unable to determine the time and/or money due from the City for the items excluded from the Contractor's release.

9.08 CONSTRUCTION COST REDUCTION INCENTIVE (VALUE ENGINEERING PROPOSAL)

A. General

1. The cost-reduction incentive program provides a mechanism by which the Contractor can be motivated to use his construction expertise to improve contract performance and thereby create an overall reduction in the total cost of the Contract. The Contractor and its subcontractors may participate in the cost-reduction program; however, participation of the subcontractors shall be through the Contractor. In addition, the sharing arrangement between the Contractor and the subcontractor must be mutually agreed upon by the Contractor and its subcontractor, and written evidence of such agreement will be submitted along with the submittal of the cost-reduction proposal.
2. No cost reduction proposals shall be submitted for which the City's share in the participation of the proposals is not greater than $5,000.
3. Cost-reduction proposals shall comply with the following conditions:
    a. The proposed change shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to, service life, economy of operation, ease of maintenance, desired appearance, or design and safety standards.
    b. The proposed change will not cause undue interruption of the Contract work, nor shall the proposed change be allowed to extend the Contract completion date of the project unless an extension provides a specific project benefit.
    c. The proposed change shall be in compliance with all local permits and regulations and code requirements as set forth in the contract documents.
    d. The proposed change shall not involve payment of royalties by the City to the Contractor.

B. Proposal Submittal:

1. The cost-reduction proposal shall generally conform to Section 01330, Submittal Procedures. The cost-reduction proposals shall contain as a minimum the following information:
    a. Name of individuals associated with the development and preparation of the cost-reduction proposal.

b. A detailed description and duly signed plans and specifications showing work as presently designed and the proposed changes. Clear identification of all advantages and disadvantages for each change proposed.

c. A summary of estimated costs which shall include but not be limited to the following:

1) Project construction costs before and after the cost-reduction proposal. This shall be a detailed estimate identifying the following items:

a) Quantities of material and equipment.

b) Unit prices of materials and equipment.

c) Labor hours and rates for installation.

d) Equipment hours and rates for installation.

e) Subcontractors and prime contractor markups.

f) Other estimate items necessary to evaluate the proposal.

2) Operation and maintenance costs before and after the cost-reduction proposal.

3) Costs for implementing the cost-reduction proposal not included in item 1 above.

4) Other costs as required to meet all local permits, regulations, and code requirements as set forth in the contract documents.

5) Time required for execution of the proposed change.

d. A preliminary schedule indicating the general time impacts for implementing the proposed change. Also indicate the date that the cost-reduction proposal needs to be approved for implementation.

2. If the City advises the Contractor that the proposed change will be reviewed for more detailed consideration and approval, a detailed procedure and schedule for implementing the proposed change shall be submitted. This detailed procedure and schedule shall include all necessary Contract amendments. This submittal shall also include a copy of the current Contractor's schedule showing all changes which would occur if the cost-reduction proposal were accepted.

3. The provisions of Section 00700-9.08, Construction Cost Reduction Incentive, shall not be construed to require the City or Engineer to consider any cost-reduction proposal which may be submitted. The City will not be liable to the Contractor for failure to accept or act upon any cost-reduction proposal submitted pursuant to this Section nor for any delays to the work attributable to any such proposal. The City shall not be responsible or liable for payment of any of the Contractor's costs associated with a non-accepted proposal.

4. If a cost-reduction proposal is similar to a change in the Contract Documents under consideration by the City at the time said proposal is submitted, or if such a proposal is based upon or similar to standard specifications, standard special provisions, or standard plans adopted by the City after the advertisement for the Contract, the City will not accept such proposal, and the City reserves the right to made such changes without cost-reduction compensation to the Contractor under the provisions of this Section.

5. The Contractor shall continue to perform the work in accordance with the requirements of the contract until an executed change order, incorporating the cost-reduction proposal has been issued. If an executed change order has not been issued by the date upon which the Contractor's cost-reduction proposal specifies that a decision thereon should be made, or such other date as the Contractor may subsequently have specified in writing, such cost-reduction proposal shall be deemed rejected.

6. The City shall be the sole judge of the acceptability of the cost-reduction proposal and the estimated net savings in construction costs from the adoption of all or any part of such proposal. In determining the estimated net savings, the right is reserved to disregard the contract bid prices if in the judgment of the City, such prices do not represent a fair measure of the value of work to be performed or to be deleted.

7. The City reserves the right, where it deems such action appropriate, to require the Contractor to share in the City's costs of investigating a cost-reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall

indicate its acceptance thereof in writing, and such acceptance shall constitute full authority for the City to deduct amounts payable to the City from any monies due or may become due to the Contractor under the Contract.

C. Acceptance:

1. If the Contractor's cost-reduction proposal is accepted in whole or in part, such acceptance will be by a Contract change order, which shall specifically state that it is executed pursuant to 00700-Article 9, Changes in the Work. Such change order shall incorporate the changes in the Plans and Specifications, which are necessary to be put into effect and shall include any conditions upon which the City's approval thereof is based, if the approval of the City is conditional. The change order shall also set forth estimated net savings in construction costs attributable to the cost-reduction proposal effectuated by the change order and shall further provide that the Contractor be paid fifty percent (50%) of said estimated net savings amount. The Contractor's cost of preparing the cost-reduction proposal and the City's costs of investigating a cost-reduction proposal, including any portion thereof paid by the Contractor, shall be excluded from consideration in determining the estimated net savings in construction costs.
2. Acceptance of the cost-reduction proposal and performance of the work thereunder shall not extend the time of completion of the contract, unless specifically provided for in the contract change order authorizing the use of the cost-reduction proposal.
3. The amount specified to be paid to the Contractor in the change order which effectuates a cost-reduction proposal shall constitute full compensation to the Contractor for the cost-reduction proposal and the performance of the work thereof pursuant to the said change order.
4. The City expressly reserves the rights to adopt a cost-reduction proposal for general use on contracts administered by the City when it determines that said proposal is suitable for the application to other contracts. When an accepted cost-reduction proposal is adopted for general use, only the Contractor who first submitted such proposal will be eligible for compensation pursuant to this Section, and in that case, only as to those contracts awarded to this same Contractor prior to submission of the accepted cost-reduction proposal and as to which such cost-reduction proposal is also submitted and accepted. Cost-reduction proposals identical or similar to previously submitted proposals will be eligible for consideration and compensation under the provisions of this Section, if the identical or similar previously submitted proposals were not adopted for general application to other contracts administered by the City.

****END ARTICLE 9****

ARTICLE 10 - PAYMENTS

10.01 BASIS OF PAYMENT

A. General:

1. The Contractor shall accept the compensation, as herein provided, as full payment for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed Work and for performing all work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work, also for all expenses incurred in consequence of the suspension or discontinuance of the Work as herein specified; and for completing the Work according to the Contract Documents. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.
2. No compensation will be made in case of loss of anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as provided in such agreements.
3. Full compensation for conforming to all of the provisions of the Contract Documents shall be considered as included in the prices paid for the various Contract items of work and no additional compensation will be allowed therefor.

B. Payment for Patents and Patent Infringement:

1. All fees or claims for any patented invention, article, or arrangement that may be used upon, or in, any manner connected with the performance of the Work or any part thereof shall be included in the price bid for doing the work, and the Contractor and its sureties shall defend, protect, and hold the City, its officers, agents, employees, the Construction Manager, and Design Engineers, together with all their officials, officers, volunteers, agents, and employees harmless from and any and all suits and claims including claims for attorney's fees, expert's fees and costs brought or made by the holder of any invention or patent, or on account of any patented or unpatented invention, process, article, or appliance manufactured for or used in the performance of the Contract, including its use by the City, unless otherwise specifically stipulated in the Contract. Before final payment is made on the Contract, the Contractor shall furnish an affidavit to the City regarding patent rights for the Project. The affidavit shall state that all fees and payments due as a result of the work incorporated into the Project or methods utilized during construction have been paid in full. The Contractor shall certify in the affidavit that no other fees or claims exist for work in this Project.

C. Payment of Taxes:

1. The Contractor shall pay and shall assume exclusive liability for all taxes levied or assessed on or in connection with its performance of this Contract, whether before or after acceptance of the work, including, but not limited to, State and local sales and use taxes, Federal and State payroll taxes or assessments, and excise taxes, including any taxes or assessments levied or increased during the performance period of the work. No separate allowance will be made therefor, and all costs in connection therewith shall be included in the total amount of the Contract price.

10.02 PARTIAL PAYMENTS

A. General:

1. In consideration of the faithful performance of the Work prosecuted in accordance with the Contract Documents, the City will pay the Contractor for all such work installed on the basis of unit prices and/or percentage completion of lump sum Bid Items. Amounts earned for lump sum work will be based on accepted Cost Breakdown (See Technical Specifications).
2. Payments will be made by the City to the Contractor on estimates duly certified and approved by the Construction Manager, based on the Lump Sum or unit price value of equipment installed and tested, labor and materials incorporated into said permanent work by the Contractor during the preceding month, and acceptable materials and equipment on hand (materials and equipment furnished and delivered to the Site by the Contractor and not yet incorporated into the work

accompanied by an approved invoice). Payments will not be made for temporary construction unless specifically provided for in the Contract Documents.

3. Partial payments will be made monthly based on work accomplished as of a day mutually agreed to by the City and the Contractor.
4. The Contractor shall submit a completed and signed progress payment request form with its estimate of the work completed during the prior month and the work completed to date in a format corresponding to the unit price schedule and accepted cost breakdown. Additionally, the Contractor shall submit a detailed statement of the Contractor's request for payment of acceptable materials and equipment on hand in compliance with Section 00700-10.03, Partial Payments - Inclusion of Materials on Hand. Each payment request shall list each Change Order executed prior to date of submission, including the Change Order Number.
5. Contractor shall certify each payment request stating that the Contractor has met all requirements of the Contract Documents for all amounts included in the payment request and that all work included in the payment request has been performed in accordance with the Contract Documents.
6. Upon receipt of Contractor's requests for payment, the City shall act in accordance with the following:
    a. The Construction Manager shall review the submitted estimates, as soon as practicable after receipt for the purpose of determining that the estimates are a proper request for payment, and shall prepare a certified estimate of the total amount of work done and acceptable materials and equipment on hand.
    b. Any request for payment determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days after receipt. A request for payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the request for payment is not proper.
    c. The number of days available to the City to make a payment without incurring interest pursuant to this Section shall be reduced by the number of days by which the City exceeds the seven (7) day return requirement set forth in subdivision (b) above.

B. If requested, the Contractor shall provide such additional data as may be reasonably required to support the partial payment request. The Construction Manager will adjust or correct the payment request, and will be available to meet and discuss the partial payment request prior to its resubmittal(s). When the Contractor's estimate of amount earned conforms with the Construction Manager's evaluation, the Contractor shall submit to the Construction Manager a properly completed and signed progress payment request. The Construction Manager will submit the recommended progress payment request for the City's approval and processing. Payment will be made by the City to the Contractor in accordance with City's normal accounts payable procedures; the City shall retain amounts in accordance with Section 00700-10.04, Right to Withhold Amounts.

C. No such estimate or payment shall be required to be made, when in the judgment of the Construction Manager, the Work is not proceeding in accordance with the provisions of the Contract, or when in the Construction Manager's judgment the total value of the Work done since the last estimate amounts to less than One Thousand Dollars ($1,000).

D. Subject to the provisions of this Section, the City shall pay the Contractor within thirty (30) days after receipt of undisputed and properly submitted requests for payment from the Contractor. In accordance with California Public Contract Code §20104.50, if the City fails to pay an undisputed request for payment within the allotted thirty (30) days, the City shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of §685.010 of the California Code of Civil Procedure.

E. Each progress payment request and the final payment request shall be deemed “proper” only if it is submitted on the form approved by the City, with all of the requested information completely and accurately provided by the Contractor.

10.03 PARTIAL PAYMENTS- INCLUSION OF MATERIALS ON HAND

A. Materials, as used herein, shall be considered to be those items which are fabricated and manufactured material and equipment. Only those materials for which the Contractor can transfer clear title to the City will be qualified for partial payment. The Contractor may request payment of seventy-five (75) percent of the actual net cost of these materials. The request for partial payment will be subject to retention as provided elsewhere in the Contract Documents.

B. To receive partial payment for materials and equipment not incorporated in the Work, it shall be necessary for the Contractor to submit to the Construction Manager a list of such materials, at least seven (7) days prior to submitting the monthly estimate of amount earned for work completed. At the Construction Manager's sole discretion, it may approve items for which partial payment is to be made subject to the following:

   1. Equipment and materials will only be eligible if given conditional or final acceptance by the Design Engineer and are in apparent compliance with favorably reviewed shop drawings.
   2. Eligible equipment or materials must be delivered and properly stored, protected, and maintained in a manner favorably reviewed by the Construction Manager and in accordance with the accepted Operation and Maintenance Manuals, at the job Site or at a bonded warehouse in the vicinity, a maximum of 30 miles, of the Work. In addition to the requirements noted herein, equipment or materials stored offsite are subject to the following:
      a. Contractor will immediately, permanently, and prominently label all of the materials with the following notice: “THIS MATERIAL IS THE PROPERTY OF THE CITY”.
      b. Contractor will, concurrent with payment, execute and deliver to the City a Bill of Sale.
      c. Contractor warrants to the City that no third party has a lien against any of the Materials, and that Contractor has full power and authority to convey clear title to the Materials to the City by Bill of Sale. If the City so requests, Contractor will cooperate in the filing of a UCC-1 notification or other documentation placing notice of the City’s title in applicable state records.
      d. Contractor to store all of the Materials in a climate controlled and secured facility protected from adverse weather conditions in accordance with the Operations and Maintenance Manuals. The City has the right to inspect and approve the proposed facility.
      e. Contractor shall provide access to the facility when requested by the City.
      f. All warranty periods for the Materials will commence as described in the Contract Documents.
      g. Risk of loss as to the Material shall remain with the Contractor until Substantial Completion of the Work under the Contract.
      h. Contractor shall keep the Material fully insured for the benefit to the City, and provide the City with a satisfactory certificate of insurance showing such coverage.
      i. Any Material warranties under the Contract shall commence only upon Substantial Completion or beneficial occupancy as provided in the Contract.
      j. The City reserves the right that if the above conditions are not met by the Contractor, the City shall adjust future monthly progress payments to reduce previously-paid materials on hand to zero or an amount the City deems appropriate.
      k. The Contractor is responsible for the risk of damage, theft, vandalism, or loss.

C. Effect of Payment: Payment will be made by City based on the Construction Manager’s observations at the Site and the data comprising the progress payment request. Payment will not be a representation that the City has:

   1. made exhaustive or continuous on-site inspections to check the quality or quantity of Work;
   2. reviewed construction means, methods, techniques, sequences or procedures;
   3. reviewed copies of requisitions received from subcontractors and material suppliers and other data requested by City to substantiate Contractor’s right to payment;

4. made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum; or
5. accepted all or part of the Work.

10.04 RIGHT TO WITHHOLD AMOUNTS

A. Retention: The City will withhold from each of the partial payments and retain as part security, five percent (5%), of the amount earned until the final payment in accordance with Public Contract Code §7201.

B. Other Withholds: In addition to the amount which the City may otherwise retain under the Contract, the City may withhold a sufficient amount or amounts of any payment or payments otherwise due the Contractor, as in its judgment may be necessary to cover:

1. For defective work not remedied.
2. A reasonable doubt that the Contract can be completed for the balance then unpaid.
3. Damage to another contractor or third party, or to property.
4. Failure of the Contractor to maintain Project Record Documents current as required in the Technical Specifications.
5. Cost of insurance arranged by the City due to cancellation or reduction of the Contractor's insurance.
6. Failure to submit, revise, resubmit or otherwise conform to the requirements herein for preparing and maintaining a construction schedule as required in Section 01324, Progress Schedules and Reports.
7. Failure to make proper submissions, as specified herein.
8. Payments due the City from the Contractor.
9. Reduction of Contract Amount because of modifications.
10. The Contractor's neglect or unsatisfactory prosecution of the Work including additional engineering and administrative costs related to construction and/or shop drawing errors and the failure to clean up.
11. Provisions of law that enable or require the City to withhold such payments in whole or in part.
12. Stop Notice claims filed by Contractor’s subcontractors, of any tier, or its material suppliers.
13. Failure to comply with environmental or other regulatory requirements.
14. Liquidated damages.

C. When the above reasons for withhold amounts are removed, payment will be made to the Contractor for amount withheld because of them.

D. The City in its discretion may apply any withheld amount or amounts to the payment of valid claims. In so doing, City shall be deemed the agent of Contractor, and any payment so made by City shall be considered as a payment made under the Contract by City to Contractor and City shall not be liable to Contractor for such payment made in good faith. Such payments may be made without prior judicial determination of the claim or claims. City will render to Contractor a proper accounting of such funds disbursed in behalf of Contractor.

10.05 STOP NOTICES

A. City will comply with California Civil Code 9000 et seq. regarding Stop Notices.

B. All Preliminary and Stop Notices must be sent to the City’s Project Representative, named in the Section 00510, Agreement.

10.06 SECURITY SUBSTITUTION FOR RETENTION

A. Pursuant to Public Contract Code §22300 (the provisions of which are hereby incorporated herein by reference) the Contractor may substitute securities for any moneys withheld by the City as retention

under Sections 00700-10.02, Partial Payments, or 00700-10.09, Final Inspection and Payment, to ensure performance under the contract; however, substitution of securities shall not be allowed hereunder if financing for this Contract has been provided by the Farmers Home Administration of the United States Department of Agriculture pursuant to the Consolidated Farm and Rural Development Act (7 U.S.C. Sec. 1921 et seq.), or where federal regulations or policies, or both, do not allow the substitution of securities. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the City, or with a state or federally chartered bank in California as the escrow agent, who shall then pay those moneys to Contractor. Upon satisfactory completion of the Contract, the securities shall be returned to Contractor.

B. Contractor shall have the obligation of ensuring that such securities deposited are sufficient so as to maintain, in total fair market value, an amount equal to the cash amount of the sums to be withheld under the Contract. If, upon written notice from the City, or from the appropriate escrow agent, indicating that the fair market value of the securities has dropped below the dollar amount of monies to be withheld by the City to ensure performance, Contractor shall, within five days of the date of such notice, post additional securities as necessary to ensure that the total fair market value of all such securities held by the City, or in escrow, is equivalent to the amount of money to be withheld by the City under the Contract.

C. Securities eligible for investment include those listed in §16430 of the California Government Code, bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit that are secured by securities listed in §16430 of the Government Code or that contain terms and conditions that provide assurances of financial integrity substantially equivalent to that of securities listed in said §16430, or any other security of like financial integrity mutually agreed to by Contractor and City. The City reserves the right to determine the acceptability of eligible securities proposed by Contractor for substitution of moneys withheld as retention. Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.

D. If Contractor elects to receive interest on moneys withheld in retention by City, Contractor shall, at the request of any subcontractor, make that option available to the subcontractor regarding any moneys withheld in retention by Contractor from the subcontractor. If Contractor elects to receive interest on any moneys withheld in retention by City, then the subcontractor shall receive the identical rate of interest received by Contractor on any retention moneys withheld from the subcontractor by Contractor, less any actual pro rata costs associated with administering and calculating that interest. In the event that the interest rate is a fluctuating rate, the rate for the subcontractor shall be determined by calculating the interest rate paid during the time that retentions were withheld from the subcontractor.

E. The provisions of the immediately preceding paragraph shall apply only to those subcontractors performing more than five (5%) percent of Contractor’s total bid. Contractor shall not require any subcontractor to waive any provision of this Section pertaining to the rights of subcontractors.

F. The escrow agreement used hereunder shall be null, void, and unenforceable unless it is substantially similar to the form included in Public Contract Code §22300 which is reproduced in Section 00580, Sample Escrow Agreement, for Security Deposits in Lieu of Retention.

G. Specific securities proposed for investment shall be submitted to the City for determination of acceptability. Standby letters of credit are not eligible for investment.

10.07 WARRANTY OF TITLE

A. No material, supplies, or equipment for the Work under this Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. The Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the work and agrees upon completion of all work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by the Contractor, to the City free from any claims, liens, security interests, or charges. The Contractor further agrees that neither the Contractor nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances thereon, provided that this shall not preclude the Contractor from installing metering devices and other equipment of utility companies or of

municipalities, the title of which is commonly retained by the utility company or the municipality. In the event of the installation of any such metering device or equipment, the Contractor shall advise the City as to the legal City thereof.

B. Nothing contained in this paragraph, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the City. The provisions of this Paragraph shall be inserted in all subcontracts and material contracts, and notice of its provisions shall be given to all persons furnishing materials for the work when no formal Contract is entered into for such materials.

10.08 SUBSTANTIAL COMPLETION

A. When the Contractor considers that the Work or portion of the Work as defined in the Technical Specifications is substantially complete, the Contractor shall notify the Construction Manager accompanied with the Contractor's Certification of Completion letter. Upon receipt of the notification, the Construction Manager, the City, the Design Engineer, and/or their authorized representatives will make inspection, to determine if the Work and administrative requirements are sufficiently complete in accordance with the Contract Documents so the City can occupy or utilize the Work for its intended use. If items are found which prevent such use or occupancy, the Construction Manager shall notify the Contractor in writing of such items by issuing a Corrective Work Item List.

B. Upon the completion of such corrective work, the Contractor shall so notify the Construction Manager in writing. The Construction Manager, the City, and/or the Design Engineer shall inspect the Work to determine its acceptability for Substantial Completion and for determination of other items which do not meet the terms of the Contract. Upon verification that the Work is substantially complete the Construction Manager shall prepare a Certificate of Substantial Completion and the Punch List. The Certificate shall establish the date of Substantial Completion and the responsibilities of the City and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, commencement of warranties required by the Contract Documents, and shall fix the time, not to exceed 60 days, within which the Contractor shall finish all items on the Punch List or remaining work or administrative requirements accompanying the Certificate. When the preceding provisions have been approved by both the City and the Contractor, they shall sign the Certificate to acknowledge their written acceptance of the responsibilities assigned to them in such Certificate. By such acknowledgment, the City has the right to retain, in accordance with applicable law, withheld monies due the Contractor to pay the City's actual costs including, but not limited to, charges for engineering, inspection and administration incurred due to the failure to complete the Punch List within the time period provided in the Certificate of Substantial Completion, which costs the City may deduct from amounts due or that may become due the Contractor under the Contract.

10.09 FINAL INSPECTION AND PAYMENT

A. After receipt of the last partial payment, but prior to acceptance of the Work by the City, the Contractor shall send a letter to the Construction Manager. The letter, pursuant to California Public Contract Code §7100, shall state that acceptance of the final payment described below shall operate as and shall be, a release to the City, its officers, employees, the Construction Manager, the Design Engineer, and their duly authorized agents, from all claim of and/or liability to the Contract arising by virtue of the Contract related to undisputed contract amounts. Disputed Contract claims in stated amounts previously filed as provided in Section 00700-Article 11, Protests, Disputes and Claims, may be specifically excluded by the Contractor from the operation of the release.

B. Following receipt of all required submittals and the Construction Manager's written statement that construction is complete and recommendation that the City accept the project, the City will take formal action on acceptance.

C. Within ten (10) days of the acceptance by the City of the completed work embraced in the Contract, the City will cause to be recorded in the office of the County Recorder a Notice of Completion.

D. Within sixty (60) days after the date of the completion of the Project pursuant to Public Contract Code section 7107, the City will pay the Contractor in lawful money such sums of money as may be due the Contractor and are undisputed including all sums retained but excluding such sums as have previously

been paid the Contractor. This payment will constitute the final payment to the Contractor under this Contract. Prior to receipt of such payment, the Contractor shall send City a "conditional waiver and release upon final payment" properly executed in accordance with California Civil Code §8132.

E. The City will pay the Contractor in lawful money such sums of money as may be due the Contractor including all sums retained but excluding such sums as have previously been paid the Contractor and as may be needed to cover outstanding stop notices. This payment will constitute the final payment to the Contractor under this Contract.

F. In the event of a dispute between the City and the Contractor, the City may in accordance with California Public Contract Code §7107 withhold from the final payment an amount of 150 percent of the disputed amount.

****END ARTICLE 10****

ARTICLE 11 - PROTESTS, DISPUTES AND CLAIMS

11.01 PROTESTS

A. If Contractor contends that it was directed by the Construction Manager to perform Work outside the requirements of the Contract Documents, or if Contractor considers any direction, instruction or decision of Construction Manager to be incorrect or improper, Contractor must immediately notify City's Representative in writing within five (5) days of such directive, instruction, or decision before proceeding with such Work.

B. If Contractor proceeds with such Work without complying with the requirements of Section 00700-11.01.A above, providing advance written notification, Contractor will be deemed to have assented that the Work is within the Contract's requirements, and Contractor will have forfeited any right to a protest or Claim.

11.02 DISPUTES

A. A Dispute is a written disagreement submitted by the Contractor seeking adjustment of Contract terms, payment of money, extension of Contract Time or other relief with respect to the terms of the Contract.

B. A Dispute is not a Claim.

C. Each Dispute must involve only one issue to be decided by the City.

D. Dispute documentation must be complete when submitted.

E. The evaluation of the Contractor's position will be based on City's records and the Dispute documentation submitted by Contractor.

F. Contractor must furnish Dispute documentation in the following format:

1. Introduction and Issue Identification.
2. Background.
3. Chronology.
4. Contractor's Position (Reason for City's potential liability).
5. Supporting documentation of merit.
6. Supporting documentation of damages.
7. Schedules (if appropriate).
8. Productivity exhibits (if appropriate).

G. Supporting documentation of merit must be cited by reference, photocopies, or explained. Supporting documentation may include, but not be limited to General Conditions, General Requirements, Technical Specifications, Drawings, correspondence, conference notes, Shop Drawings and other Submittals, Submittal logs, survey books, inspection reports, delivery schedules, test reports, daily reports, subcontracts, fragmentary Critical Path method schedules, photographs, technical reports, Requests for Information, field instructions, and other related records necessary to support the merit of Contractor's position.

H. Supporting documentation of damages must be cited, photocopied, or explained. Supporting documentation may include but not be limited to any or all documents related to the preparation and submission of the Bid; Subcontractor, Supplier or vendor files and cost records; certified payroll reports, materials, equipment, and construction equipment and services costs; purchase orders; invoices; project as-planned and as-built costs; Subcontractor and Supplier payment documentation; quantity reports; other related records; general ledger and any other accounting materials necessary to support the Contractor's position.

I. The City may elect to enter into discussions and/or negotiations with the Contractor for the purpose of resolving the Dispute. Negotiations on Disputed Work are for settlement purposes only and are not binding.

J. City's Representative will decide Disputes and Claims. The Contractor will be furnished with a written copy of the City's decision.

11.03 NOTICE OF POTENTIAL CLAIM

A. Contractor is not entitled to additional compensation for any cause unless Contractor submits to the Construction Manager a written notice of the potential Claim as hereinafter specified.

B. The written notice of potential Claim must set forth the reasons for which Contractor believes additional compensation and/or time will or may be due, the nature of the costs and/or time involved, and, insofar as possible, the amount of the potential Claim. The said notice as above required must have been submitted to Construction Manager before Contractor performs the Work giving rise to the potential Claim for additional compensation and/or time, if based on an act or failure to act by City, or in all other cases within fourteen (14) Days after the happening of the event, thing or occurrence giving rise to the potential Claim.

C. Compliance with the foregoing shall not be a prerequisite to any Claim that is based on differences in measurement or errors of computations as to Contract quantities.

11.04 CONTEMPORANEOUS DOCUMENTATION

A. Contractor must contemporaneously generate full and complete records of the cost and time incurred to perform Disputed Work.

B. Beginning with the first day on which any Disputed Work is performed, and each following Day, Contractor must maintain detailed hourly records of labor, construction equipment, and services, and itemized records of materials and equipment used each Day in the performance of the Disputed Work. Such records must be of a form acceptable to Construction Manager, must be signed by Contractor, and are subject to verification by Construction Manager.

11.05 CLAIMS

A. A Claim is a separate unresolved Dispute by the Contractor for:

1. a Contract Time extension;
2. payment of money or damages arising from Work done by, or on behalf of, the Contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to; or
3. an amount the payment of which is disputed by the City.

B. If a Dispute or Disputes have not been resolved to the satisfaction of the Contractor, the Contractor may submit a Claim along with detailed documentation supporting the Claim.

C. A single Claim may include multiple issues. However, each issue in a Claim must be separately identified and supported.

D. Contractor must submit certified copies of the Claim documentation. Certification must be provided in accordance with Section 00700-11.05.J below.

E. All Claim documentation must be complete when submitted.

F. Each issue to be decided by the City must be clearly identified in the Claim. Issues not clearly identified and included in the certified Claim will not be considered.

G. The evaluation of the Contractor's Claim will be based on City's records and the certified Claim documentation submitted by Contractor.

H. Claim Documentation: Claim documentation must conform to generally accepted auditing standards and must be in the following format:

1. Introduction.
2. General Background Discussion.
3. Summary of Issues and Damages.

4. Issues:
   a. Index of Issues.
   b. For Each Issue (Begin each issue on a new page).
      1) Background.
      2) Chronology.
      3) Contractor's Position (Reason for City's potential liability).
      4) Supporting Documentation of Merit.
      5) Supporting Documentation of Damages.
      6) Schedules (if appropriate).
      7) Productivity exhibits (if appropriate).
5. Supporting documentation of merit must be cited by reference, photocopies, or explained. Supporting documentation may include, but not be limited to General Conditions, General Requirements, Technical Specifications, Drawings, correspondence, conference notes, Shop Drawings and other Submittals, Submittal Logs, survey books, inspection reports, delivery schedules, test reports, daily reports, subcontracts, fragmentary Critical Path method schedules, photographs, technical reports, Requests for Information, field instructions, and other related records necessary to support the merit of Contractor's position.
6. Supporting documentation of damages must be cited, photocopied, or explained. Supporting documentation may include but not be limited to any or all documents related to the preparation and submission of the Bid; Subcontractor, Supplier or vendor files and cost records; certified payroll reports, materials, equipment, and construction equipment and services costs; purchase orders; invoices; project as-planned and as-built costs; Subcontractor and Supplier payment documentation; quantity reports; other related records; general ledger and any other accounting materials necessary to support the Contractor's position.

I. Submission of Claim Costs: Within thirty (30) days after incurring the last cost of work for which the Contractor contends it is due additional compensation is incurred, but if costs are incurred over a span of more than thirty (30) days, then within fifteen (15) days after the thirtieth day and every month thereafter, the Contractor shall submit to the Construction Manager, as best the Contractor is able, its costs incurred for the claimed matter. Claims shall be made in itemized detail, and should the Construction Manager be dissatisfied with the format or detail of presentation, upon request for more or different information, the Contractor will promptly comply, to the satisfaction of the Construction Manager. If the additional costs are not fully ascertainable, they shall be estimated with as much accuracy as possible in the circumstances. The Construction Manager shall have the right as provided in Section 00700-9.05, Cost Pricing Date and Access to Records, to review the Contractor’s records pertaining to a submitted claim. In case the claim is found to be just, it shall be allowed and paid for as provided in Section 00700-Article 9, Changes in the Work.

J. Each original copy of the Claim must include the following certification, signed in the same manner as the Agreement was signed:

1. Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government Code §12650 et seq., the undersigned,

Name: _____

Title: _____

Company: _____

hereby certifies that this Claim is made in good faith, is a true statement of the actual costs incurred and time sought, is fully supported pursuant to the Contract between parties, that the supporting documentation is accurate and complete to the best of my knowledge and belief, and that the amount requested accurately reflects the Contract adjustments for which City is responsible.

Dated: _____ Signed: _____

Subscribed and sworn before me this _____ day of _____ 20__

_____ Commission Expires _____

(Notary Public)

K. Failure to submit the notarized certification will be sufficient cause for rejecting the Claim submission.

L. If Contractor is unable to support any part of a certified Claim and it is determined that such inability is attributable to falsity of such certification or misrepresentation of fact or fraud by Contractor, Contractor shall be liable to City for three (3) times the amount of damages which City sustains, plus the cost of civil action, and may be liable to City for a civil penalty of up to Ten Thousand Dollars ($10,000) for each false claim.

11.06 PROCESSING OF CLAIMS

A. General: This Contract provides for three types of Contract Claims, which will be processed and resolved under different subsections. Any claim for money or damages of $375,000 or less or for a time extension (i.e., any claim subject to California Public Contract Code §20104) shall be processed and resolved in accordance with Section 00700-11.06.B below. Any claim for money or damages of more than $375,000 (i.e., any claim not subject to Public Contract Code §20104) shall be processed and resolved in accordance with Section 00700-11.06.C below. Any Contract Claim sent to City by registered mail or certified mail with return receipt requested (i.e., any claim subject to Public Contract Code §9204) shall be processed and resolved pursuant to Section 00700-11.06.D.

B. Claims for $375,000 or Less or for Time Extension and Not Sent by Registered or Certified Mail.

1. Application: This subsection applies to all claims (not sent by registered or certified mail) for $375,000 or less in value, including any claim for a time extension or for a time extension that includes claimed delay damages of $375,000 or less.

2. City Response to Contract Claim: The Construction Manager shall respond in writing to the Contract Claim within sixty (60) days of receipt of the claim (or within forty-five (45) days of receipt for claims of less than $50,000), or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the City may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subsection, upon mutual agreement of the Construction Manager and the Contractor. The Construction Manager's written response to the claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt (or fifteen (15) days after receipt for claims of less than $50,000) of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater. The City shall not fail to pay money as to any portion of a Contact Claim that is undisputed except as otherwise provided in the Contract Documents.

3. Meet and Confer: If the Contractor disputes the Construction Manager's written response, or the Construction Manager fails to respond within the time prescribed, the Contractor may notify the City, in writing, either within fifteen (15) days of receipt of the Construction Manager's response or within fifteen (15) days of the Construction Manager's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon such a demand, the City shall schedule a meet and confer conference within thirty (30) days for the parties to consider settlement of the dispute. If the Contractor fails to timely demand a meet and confer conference within the applicable 15-day period, then the Contractor shall be deemed not to dispute the Construction Manager's written response to the Contract Claim and the Construction Manager's decision on the Contract Claim shall be final, conclusive and binding, and the Contractor shall be deemed to have waived all its rights to further protest, judicial or otherwise.

4. Government Code Claim: Following the meet and confer conference, if the Contract Claim or any portion remains in dispute, the Contractor may file a Government Code Claim as provided in Government Code title 1, division 3.6, part 3, chapters 1 (commencing with section 900) and 2 (commencing with section 910). The running of the period of time within which Contractor must file a Government Code Claim shall be tolled from the time the Contractor submits a timely Contract Claim pursuant to 00700-11.03 through 11.05 above until the time that the Contract Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process. The City shall respond to any Government Code Claim in accordance with the Government Claims Act.
5. Lawsuit: If the claim is not resolved pursuant to Section 00700-11.06.B.4 above, the Contractor may file a lawsuit on the claim within the limitations period provided by the Government Claims Act. If the Contractor fails to timely file a lawsuit within the limitations period of the Government Claims Act, then the City's response to the Government Code Claim shall be final, conclusive and binding on the Contractor, and the Contractor thereafter shall be barred from filing a lawsuit on the claim.
6. Mediation: If the Contractor timely files a lawsuit, then within sixty (60) days, but no earlier than thirty (30) days, following the filing of responsive pleadings, the court shall submit the matter to non-binding mediation (unless waived by mutual stipulation of both parties). The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator. The mediator's fees and expenses shall be split and paid equally between the parties. The court may, upon request by any party, order any witnesses to participate in the mediation process.
7. Arbitration: If the matter remains in dispute following the mediation or if the parties waive the mediation, then the case shall be submitted to judicial arbitration pursuant to Code of Civil Procedure part 3, title 3, chapter 2.5 (commencing with section 1141.10), notwithstanding section 1141.11 of that code. The Civil Discovery Act of 1986 (Code of Civil Procedure part 4, title 3, chapter 3, article 3 (commencing with section 2016)) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. The arbitrator shall be experienced in public works construction law. The arbitrator's fees and expenses shall be split and paid equally by the parties, except where the arbitrator, for good cause, determines a different division. The court may, upon request by any party, order any witnesses to participate in the arbitration process. Any party who, after receiving an arbitration award, requests a trial de novo but does not obtain a more favorable judgment shall (in addition to payment of any costs and fees under Code of Civil Procedure part 3, title 3, chapter 2.5 (commencing with section 1141.10)) pay the attorney's fees of the other party arising out of the trial de novo.
8. Interest: In any lawsuit filed under this subsection, City shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the lawsuit is filed in court.

C. Claims for More Than $375,000 and Not Sent by Registered or Certified Mail:

1. Application. This subsection applies to all claims (not sent by registered or certified mail) that exceed $375,000 in value, including any claim for a time extension that includes claimed delay damages exceeding $375,000.
2. City Response to Contract Claim. The Construction Manager shall respond in writing to the Contract Claim within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim that the City may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subsection, upon mutual agreement of the Construction Manager and the Contractor. The Construction Manager's written response to the claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation. If the Contractor fails to timely dispute the

Construction Manager's decision on the matter in accordance with Section 00700-11.06.C.3 below, then the Contractor shall be deemed not to dispute the Construction Manager's written response to the Contract Claim and the Construction Manager's decision shall be final, conclusive and binding, and the Contractor shall be deemed to have waived all its rights to further protest, judicial or otherwise.

3. Government Code Claim. If the Contractor disputes the Construction Manager's written response to the Contract Claim, the Contractor may file a Government Code Claim as provided in Government Code title 1, division 3.6, part 3, chapters 1 (commencing with section 900) and 2 (commencing with section 910). City shall respond to any Government Code Claim in accordance with the California Government Claims Act.
4. Lawsuit. If the claim is not resolved pursuant to 00700-11.06.C.3 above, the Contractor may file a lawsuit on the claim within the limitations period provided by the Government Claims Act. If the Contractor fails to timely file a lawsuit within the limitations period of the Government Claims Act, then the City's response to the Government Code Claim shall be final, conclusive and binding on the Contractor, and the Contractor thereafter shall be barred from filing a lawsuit on the claim.
5. Judicial Reference. If the Contractor timely files a lawsuit, the case shall be submitted to judicial reference pursuant to California Code of Civil Procedure sections 638 and 640 through 645.1 (or any successor statute) and California Rules of Court title 3, division 9 (commencing with section 3.900). As authorized by Code of Civil Procedure section 638, a referee will consider and decide all factual and legal issues in the action. Each party acknowledges that it will not have any right to a jury trial or to have any judicial officer besides the referee hear or decide the action. When Contractor initiates the superior court lawsuit, it will, at the same time it files the complaint in the action, also file a motion for appointment of a single referee.
    a. Appointment of a referee shall be by mutual agreement within thirty (30) days between the parties, and if unsuccessful, then by the court and will be governed by Code of Civil Procedure §640, and subject to objection by either party as provided by Code of Civil Procedure §641. The referee must be a retired judge or a licensed attorney with at least ten years substantive experience in public works construction matters.
    b. The parties shall be entitled to discovery and the referee shall oversee discovery and may enforce all discovery orders in the same manner as a superior court judge. The referee shall have the authority to consider and rule on appropriate pre-hearing and post-hearing motions in the same manner as a superior court judge. The referee will have the authority to set a briefing and hearing schedule for any such motion or for a hearing on the merits.
    c. The referee's statement of decision shall include findings of fact and conclusions of law. The statement of decision will stand as the decision of the superior court and, upon filing of the statement with the clerk of the court, judgment may be entered pursuant to Code of Civil Procedure §644, subsection (a). The parties will have rights to appeal the final judgment so entered.
    d. Each party will pay half of the costs of the referee and the administrative fees of the reference proceeding, and each party will bear its own costs, expenses and attorney fees for the reference proceeding.

D. Claims Subject to California Public Contract Code §9204

1. This subsection applies to all Contract Claims sent by registered or certified mail with return receipt requested. The Contract Claim will be processed and resolved pursuant to Public Contract Code §9204, which is summarized here:
    a. City Review of Claim. Within forty-five (45) days after receiving a complete Contract Claim, City shall review the claim and provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. City will pay any undisputed portion of the claim within sixty (60) days from the date of the written statement. If City fails to timely issue a written statement, then the claim shall be deemed rejected in its entirety.
    b. Meet and Confer Conference. If the Contractor disputes the City's written statement or if the Contract Claim is deemed rejected, the Contractor may demand and the parties will conduct an informal conference to meet and confer regarding settlement in accordance with §9204,

subsection (d)(2)(A). Within ten (10) business days following the conclusion of the meet and confer conference, City shall provide Contractor a written statement identifying the portion (if any) of the claim remaining in dispute and any undisputed portion will be paid by City within sixty (60) days after this written statement.

c. Non-Binding Mediation. Any remaining disputed portion of the claim shall be submitted to nonbinding mediation in accordance with §9204, subsection (d)(2)(B).

d. Interest. Any amount not paid in a timely manner as required by this subsection shall bear interest at a rate of 7 percent per annum until paid.

e. The foregoing is a summary of §9204. In the event of any conflict between the summary and §9204, the statute will govern.

2. Lawsuit and Reference: If mediation is unsuccessful and all or parts of the Contract Claim remain in dispute, then the Contractor may pursue a lawsuit (with judicial reference) in accordance with the procedures set forth at 00700-11.06.C.4 through 11.06.C.5. Any lawsuit under this section 11.06.C.5 will be subject to judicial reference in the same manner as under 11.06.C.4.

E. Contract Work Pending Claim Resolution: Unless otherwise directed in writing by the Construction Manager, pending resolution of a claim under this Article 11, the Contractor shall continue to diligently prosecute the Work in accordance with the Contract Documents and the instructions of the Construction Manager.

F. Records of Disputed Work: In proceeding with a disputed portion of the Work, the Contractor shall keep accurate daily records of all costs, including a summary of the hours and classification of equipment and labor utilized on the disputed work, as well as a summary of any materials or any specialized services that are used. Such information shall be submitted to the Construction Manager on a daily basis, receipt of which shall not be construed as an authorization for or acceptance of the disputed work. Failure to comply with this paragraph shall constitute a waiver of the Contractor's claim for additional compensation or a time extension as to that day.

G. Claim Meetings: From time to time the Contractor may request or the Construction Manager may call a special meeting to discuss outstanding claims should it deem this a means of possible help in the resolution of the claim. The Contractor shall cooperate and attend prepared to discuss its claims, and make available the personnel, subcontractors and suppliers necessary for resolution, of the claim. In addition, the Contractor shall timely provide all documents relevant to the claim which may reasonably be requested by the Construction Manager.

H. Tort Claims: The provisions of this Article 11 apply only to contract-based claims and they shall not apply to tort claims, and nothing in this Article 11 is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Government Code title 1, division 3.6, part 3, chapters 1 (commencing with section 900) and 2 (commencing with section 910).

11.07 UNSUCCESSFUL NEGOTIATIONS

A. Unsuccessful negotiations to resolve Claims or Disputes are for settlement purposes only and are not binding.

****END ARTICLE 11****

ARTICLE 12 - PROTECTION OF PERSONS AND PROPERTY

12.01 SAFETY PROVISIONS

A. Contractor's Safety Responsibility:

1. The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the Work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to U.S. Department of Labor (OSHA), the California Occupational Safety and Health Act (Cal/OSHA), and all other applicable Federal, State, County, and local laws, ordinances, codes, including but not limited to the requirements set forth below, and any regulations that may be detailed in other parts of these Contract Documents. In the event of conflicting requirements, the most stringent requirement as it pertains to the Contractor's safety responsibility, shall be followed by the Contractor.
2. THE CONTRACTOR IS HEREBY INFORMED THAT WORK ON THIS PROJECT COULD BE PHYSICALLY DANGEROUS TO WORKERS. NO WORK SHALL PROCEED UNTIL EACH WORKER AND SUBCONTRACTOR UNDERSTANDS THE SCOPE OF THE WORK AND ALL SAFETY RULES AND WORK PROCEDURES TO BE FOLLOWED. THE CONTRACTOR SHALL NOT ALLOW A NEW EMPLOYEE OR NEW SUBCONTRACTOR TO BEGIN WORK ON CITY PROJECTS WITHOUT A PROPER SAFETY ORIENTATION. THE CONTRACTOR SHALL CAREFULLY INSTRUCT ALL PERSONNEL WORKING ON THIS PROJECT REGARDING THESE DANGERS INCLUDING, BUT NOT LIMITED TO, CONFINED SPACES, POTENTIALLY EXPLOSIVE ATMOSPHERES, HANDLING OF CHEMICALS, AND POSSIBLE EXPOSURE TO PATHOGENS. THE CONVEYANCE AND TREATMENT OF RAW SEWAGE AND ITS BY-PRODUCTS CAN INTRODUCE PATHOGENIC ORGANISMS, WHICH MAY CAUSE DISEASES SUCH AS SALMONELLOSIS, TYPHOID FEVER, PARATYPHOID FEVER, BACILLARY DYSENTERY, CHOLERA, INFECTIOUS HEPATITIS, POLIO, AMOEBIC DYSENTERY, GIARDIASIS, CRYPTOSPORIDIOSIS, AND OTHERS.
3. THE CONTRACTOR IS ADVISED THAT THE WORK MAY TAKE LONGER AND MAY REQUIRE SPECIAL EQUIPMENT IN ORDER TO PROPERLY CONFORM TO SAFETY REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE PERSONAL HYGIENE, SAFETY, AND PERSONAL PROTECTIVE SUPPLIES, EQUIPMENT AND TRAINING AS ARE NECESSARY TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO PROPERTY. SPECIAL CARE SHALL BE EXERCISED RELATIVE TO WORK UNDERGROUND.
4. No provision of the Contract Documents shall act to make the City, the Construction Manager, Design Engineer or any other party than the Contractor responsible for safety. The Contractor agrees that for purposes of California Labor Code §6400 and related provisions of law the Contractor, the Contractor's privities and any other entities acting pursuant to this contract will be "employers" responsible for furnishing employment and a place of employment that is safe and healthful for the employees, if any, of such entities acting pursuant to this contract and that neither the City nor the Construction Manager, Design Engineer or their respective officers, officials, employees, agents or volunteers or other authorized representatives will be responsible for having hazards corrected and /or removed at the location(s) where the work is to be performed.
5. The Contractor agrees that neither the City nor the Construction Manager, Design Engineer or their respective officers, officials, employees, agents or volunteers or other authorized representatives will be responsible for taking steps to protect the Contractor's employees from such hazards, or for instructing the Contractor's employees to recognize such hazards or to avoid the associated dangers. The Contractor agrees that with respect to the work to be performed under this contract and the location(s) where such work is to be performed, the Contractor will be responsible for not creating hazards, and for having hazards corrected and/or removed.
6. The Contractor agrees that through the safety obligations contained in this contract and the Contractor's own inspection of the Site(s) where the contract work is to be performed, the Contractor is aware and has been notified of the hazards to which the Contractor's employees may be exposed in the performance of contract work. The Contractor has taken and/or will take

appropriate, feasible steps to protect the Contractor's employees from such hazards, and has instructed and/or will instruct its employees to recognize such hazards and how to avoid the associated dangers.

7. The Contractor agrees that neither the City nor the Construction Manager, Design Engineer or their respective officers, officials, employees, agents, or volunteers or other authorized representatives will be “employers” pursuant to California Labor Code §6400 and related provisions of law with respect to the Contractor, the Contractor's privities or other entities acting pursuant to this contract.
8. The Contractor shall indemnify, defend, and hold City and Construction Manager, Design Engineer and their respective officers, officials, employees, agents and volunteers or other authorized representatives harmless to the full extent permitted by law concerning liability related to the Contractor’s safety obligations in accordance with Section 00700- Article 13, Insurance and Indemnification.

   If death, serious or minor injuries, or serious or minor damages are caused, the accident shall be reported immediately by telephone or messenger to both the Construction Manager and the City. In addition, the Contractor shall furnish the Construction Manager with a copy of the Employer's Report of Injury immediately following any incident requiring the filing of said report during the prosecution of the Work under this Contract whether on, or adjacent to, the Site, giving full details and statements of witnesses. The Contractor shall also furnish the Construction Manager with a copy of the Employer's Report of Injury involving any subcontractors on this Project. The Contractor shall make all reports as are, or may be, required by any authority having jurisdiction, and permit all safety inspections of the Work being performed under this Contract. The City reserves the right to jointly participate in the investigative process with Contractor or conduct its own independent investigation.
9. If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Construction Manager, giving full details of the claim.

B. Safety Program

1. The Contractor shall establish, implement, and maintain a written Injury and Illness Prevention Program as required by Cal/OSHA Title 8, §1509 and California Labor Code §6401.7. Before beginning the Work, the Contractor shall prepare and submit with the Construction Manager a written Site-Specific Contractor Safety Program (SSCSP) that provides for the implementation of all of the Contractor's safety responsibilities in connection with the Work at the Project Site, and the coordination of that program and its associated procedures and precautions with the safety programs, precautions and procedures of each of its subcontractors and other Contractors performing work at the Project Site. The SSCSP shall address the elements required by Cal/OSHA Title 8, §1509 and Labor Code §6401.7 and contain all the necessary elements for the Contractor to administer its program on the Project Site including the following information:
   a. An organization chart and accompanying narrative that describes the responsibility for employee and public safety of those individuals who control each phase of the operations. The chart shall also show the Contractor's internal lines of communication (including subcontractors) for the program. The policies and procedures to be followed by all personnel shall be included.
   b. The designation of a Competent Person.
   c. Specific procedures for communication between the Contractor and City on safety matters. The Contractor shall designate one person with whom official contact can be made by the City on safety matters.
   d. A specific process for employees and subcontractors to become thoroughly familiar with the potential hazards of the work and applicable federal and state regulations.
   e. Specific safety procedures and guidelines for conduct of the Work.
      1) The existence, submittal, or review of, and/or comment upon the Contractor's Injury and Illness Prevention Program and project-specific safety manual shall not in any way modify the responsibilities of the Contractor for safety for the entire Project or shift any of the

responsibilities to the City. Such review and comment shall not be construed as limiting in any manner the Contractor's obligation to undertake any action that may be necessary or required to establish and maintain safe working conditions at the Site.

2) In addition, the City may require the submittal of Injury and Illness Prevention Programs and project-specific safety manuals from certain subcontractors at the discretion of the City. The existence, submittal, or review of, or comment upon a subcontractor's Injury and Illness Prevention Program or project-specific safety manual shall not in any way modify the responsibilities of the Contractor for safety for the entire Project or shift any of the responsibilities to the City.

3) The City's review, comment upon, or inspection of the Contractor's or subcontractor's performance shall not in any way modify the responsibilities of the Contractor or subcontractor for the adequacy of the Contractor's or subcontractor's work methods, equipment, bracing or scaffolding, or safety measures in, on, or near the construction Site.

4) The City reserves the right to stop work if the Construction Manager or City Engineer believes that there is an imminent danger to persons or property. Even though the City reserves such rights, the exercise of such rights is at the City's sole discretion, and such reservations will not be construed as an obligation of the City to monitor or enforce the Contractor's Program. The City's exercise of these rights shall not provide a basis for delay damages, extra compensation, and/or additional compensation to complete the work.

2. The Contractor shall maintain a Drug-Free workplace policy within the Project Site for the safety of its employees, the City’s, Construction Manager’s, and Design Engineer’s employees and the public. The Drug-Free workplace policy shall be posted on the Construction Site. The Contractor shall notify the Construction Manager of any criminal drug statute violation occurring on the Site not later than five (5) days after the Contractor becomes aware of such violation.

3. The Contractor shall develop its SSCSP to ensure safe work practices while working in an environment where partially treated sewage may be present. The contractor shall adhere to OSHA mandated and Cal/OSHA mandated construction safety requirements including confined space entry requirements.

4. The Contractor's compliance with requirements for safety and/or the Construction Manager's review of the SSCSP shall not relieve or decrease the liability of the Contractor for safety. The Construction Manager's review of the SSCSP is only to determine if the above listed elements are included in the program.

C. Safety Supervisor:

1. The Contractor shall appoint an employee as safety supervisor who is qualified and authorized to supervise and enforce compliance with the SSCSP. The Contractor shall notify the Construction Manager in writing prior to the commencement of work of the name of the person who will act as the Contractor's Safety Supervisor and furnish the safety supervisor's resume to the Construction Manager.

2. The Contractor will, through and with its Safety Supervisor, ensure that all of its employees and its subcontractors of any tier, fully comply with the Project Safety Policies. The Safety Supervisor shall be a full-time employee of the Contractor whose responsibility shall be for supervising compliance with applicable safety requirements on the Project Site and for developing and implementing safety training classes for all job personnel. The City shall have the authority to require removal of the Contractor's Safety Supervisor if the representative is judged to be improperly or inadequately performing the duties; however, this authority shall not in any way affect the Contractor's sole responsibility for performing this work safely, nor shall it impose any obligation upon the City to ensure the Contractor performs its work safely.

D. Safety and Protection:

1. The Contractor shall take all necessary precautions to prevent damage, injury, and loss to:

2. All employees on the Project, employees of all subcontractors, and other persons and organizations who may be affected thereby;

3. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
4. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, wetlands, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction, even if not shown on the Contract Drawings.
5. The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and of underground facilities and utility districts when prosecution of the Work may affect them and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor, supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the Contractor, and the Contractor shall be responsible for any direct or indirect costs resulting from such damage, injury or loss.

E. Excavation Safety:

1. In accordance with the provisions of §6705 of the California Labor Code, the Contractor shall submit, in advance of excavation of any trench or trenches five (5) feet or more in depth, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plans vary from the shoring system standards set forth in the Construction Safety Orders of the Division of Industrial Safety in Title 8, Subchapter 4, Article 6, California Code of Regulations, the plans shall be prepared and signed by a registered civil or structural engineer employed by the Contractor, and all costs therefor shall be included in the price named in the Contract for completion of the work as set forth in the Contract Documents. Nothing in this Section shall be deemed to allow the use of a shoring, bracing, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose a tort liability on the City, the Design Engineer, the Construction Manager, nor any of their officers, officials, employees, agents, consultants or volunteers. The City's review of the Contractor's excavation plan is only for general conformance to the Construction Safety Orders.
2. Prior to commencing any excavation, the Contractor shall designate in writing to the Construction Manager the "competent person(s)" with the authority and responsibilities designated in the Construction Safety Orders.

F. Safety Emergencies:

1. In emergencies affecting the safety or protection of persons or the Work or property at the Project Site or adjacent thereto, the Contractor, without special instruction or authorization from the Construction Manager, is obligated to act to prevent threatened damage, injury, or loss. The Contractor shall give the Construction Manager prompt written notice if the Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby.

G. Safety Violations:

1. Should the Contractor fail to correct an unsafe condition, the City shall have the right to notify the Contractor through the Construction Manager that an unsafe condition may exist and must be corrected or the work in question can be stopped in accordance with Section 00700-8.09, Suspension of Work, until the condition is corrected to the satisfaction of the City. No extension of time or additional compensation will be granted as a result of any stop order so issued. The notification and suspension of such work or the failure to provide such notification and suspension by the City shall not relieve the Contractor of its sole responsibility and liability for safety and the correction of any unsafe conditions.
2. The City shall have the authority to require the removal from the project of any worker and the foreman and/or superintendent in responsible charge of the work where safety violations occur.

H. Equipment Safety Provisions:

1. The completed Work shall include all necessary permanent safety devices, such as machinery guards and similar safety items, required by the State and Federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the Work, including City-selected equipment, subject to such safety regulations shall be fabricated, furnished, and installed in compliance with these requirements. All equipment furnished shall be grounded and provided guards and protection as required by safety codes. Where vapor-tight or explosion-proof electrical installation is required by safety codes, this shall be provided. Contractors and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. The Contractor shall notify all equipment suppliers and subcontractors of the provisions of this paragraph.

I. Confined Spaces:

1. The Project requires work in confined spaces and requires compliance with Cal/OSHA and Federal OSHA requirements. Confined spaces for the purposes of this Section shall be as defined by the Division of Industrial Safety. Notwithstanding any classifications relative to the Tunnel Safety Orders, work within confined spaces of this project is subject to the definitions and applicable provisions of Section 1950 et. seq., Title 8, Division 1, Chapter 4, Subchapter 4, Article 37 of California Code of Regulations.
2. Entry into existing “permit” confined spaces as defined by OSHA shall be allowed only in compliance with a confined space entry permit program by the Contractor that meets the requirements of Cal/OSHA Sections 1953-1962. While the City (Host Employer) has identified certain existing facilities as confined spaces, other confined spaces may exist on the Project. It shall be the responsibility of the Contractor (Controlling Contractor) to notify the City of unidentified confined spaces, reference Cal/OSHA Section 1952(h) for permit space entry communication and coordination requirements.
3. Sources of ignition, including smoking, shall be prohibited in any confined space, including open cut trenches of any depth.
4. It is anticipated that the Contractor may encounter hazardous conditions within these confined spaces which include, but are not limited to the following:
    a. Exposure to hydrogen sulfide, methane, carbon dioxide and other gases and vapors commonly found in municipal sewers which could have or has the potential of having Immediate Danger to Life or Health Conditions (IDLH).
    b. Exposure to atmosphere containing insufficient oxygen to support human life.
    c. Exposure to combustible, flammable, and/or explosive atmosphere.
    d. Exposure to sewage which may contain bacteriological, chemical, and other constituents harmful to humans.
    e. Work in conditions where engulfment or entrapment may occur.
    f. Work in environments which may be slippery and/or have uneven work surfaces.
    g. Work in structures which have limited and/or restricted access and egress.
    h. Work in structures where workers may trip, slip, and/or fall several feet.

J. Construction Activity Permits:

1. The Contractor must submit a copy of its respective current DOSH permit before beginning work on any the following construction activities:
2. Construction of trenches or excavations which are five feet or deeper and into which a person is required to descend.
3. Construction of any building, structure, scaffolding or falsework more than three stories high or the equivalent height (36 feet).
4. Demolition of any building or structure, or dismantling of scaffolding or falsework more than three stories high or the equivalent height (36 feet).

5. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).

12.02 PUBLIC ACCESS, SAFETY AND CONVENIENCE

A. In accordance with the provisions of §6500 of the Labor Code the Contractor shall conduct its work so as to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the Work and to ensure the protection of persons and property. No road or street shall be closed to the public except with the permission of the Construction Manager and the proper governmental authority. Fire hydrants on or adjacent to the Work shall be accessible to firefighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks, private and public driveways, and proper functioning of gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses. To the maximum extent permitted by law, Contractor shall indemnify, hold harmless and defend City from any and all liability, including attorneys' fees and costs of litigation, arising from any failure to comply with this Section by Contractor or its privities.

B. The Contractor shall, at all times, provide for "Public Convenience and Safety", as described in the City's Standard Specifications, OSHA and State of California Safety regulations.

C. The Contractor shall schedule and conduct the work so as to minimize the inconvenience to the public, as well as to City employees at any City facilities and adjoining areas impacted by the work. Any phase of the work which requires disruption of utilities, shall be scheduled three (3) days in advance with the affected parties.

D. The design of the facilities included in this Project has been based on the concept that the structures are not accessible to and usable by the handicapped and the general public. Consequently, stairs, landings, platforms, railings, ladders, exits, and the like, for treatment facilities were designed to conform only to the requirements for industrial use by authorized persons.

E. The Contractor shall have complete responsibility for the work and protection thereof and for preventing injuries to persons and damage to the work, property, and utilities on or about the work until completion and final acceptance thereof. The Contractor shall in no way be relieved of its responsibility by any right of the Engineer to give permission or directions relating to any part of the work, by any such permission or directions given, or by failure of the Engineer to give such permission or directions.

F. The Contractor is prohibited from using a wireless telephone while driving on City business and/or City property unless the vehicle has been equipped with a stationary, hands-free device to enable conversations without the use of one or both of the driver's hands. When operating any vehicle that requires a Class A or B license or a special use certification, the use of cellular phones, radios, or any other communication device, while on City property, is prohibited.

G. Refer to Division 1- General Requirements, for any further requirements on safety procedures to be followed in and about public roadways.

H. The Contractor shall provide and maintain all necessary safety equipment, such as fences, barriers, signs, lights, walkways, guards, and fire-prevention and fire-fighting equipment, and shall take such other action as is required to fulfill its obligations under this Section.

I. Contractor shall make use of slating and screening in any fencing around the job Site or staging area to keep areas reasonably hidden from view.

J. The Contractor shall so conduct its operations as not to close or obstruct any portion of any railroad, highway, road, or other property until permits therefor have been obtained from the governmental or other authorities having jurisdiction thereof. If any of the above are required to be kept open and are damaged or rendered unsafe by the Contractor's operations, the Contractor shall, at its expense, make such repairs and provide such temporary guards, bridges, lights, and other signals as necessary or required for public safety and as will be acceptable to the governmental or other authorities having jurisdiction thereof. Fences that interfere with any work may, upon prior written approval of the City, be removed by the Contractor but must then be restored to their original condition prior to final acceptance. Such removing and restoring shall be by and at the expense of the Contractor.

K. Unless otherwise specifically provided in the Contract, the Contractor shall not do any work that would affect any pipeline, telephone, telegraphic, or electric transmission line, irrigation ditch, or other structure, nor enter upon the rights-of-way or lands appurtenant thereto, until notified by the owners that the City has obtained proper authority therefor from the owners thereof.

L. Thereafter and before such work begins, the Contractor shall give said owners convenient access and reasonable cooperation in their removing, shoring, supporting, or otherwise protecting such lines, ditches, and structures, and for replacing same.

M. Care shall be exercised by the Contractor to prevent damage to adjacent walks, streets, culverts, and gutters; where equipment will pass over these obstructions, suitable planking shall be placed.

N. The Contractor shall not be entitled to any extension of time or any extra compensation on account of any postponement, interference, or delay caused by any such line, ditch, or structure being on or adjacent to the Site of work, except as provided in this Section 00700-9.02.G, Differing Site Conditions.

O. The Contractor shall preserve and protect all cultivated and planted areas, and vegetation such as trees, plants, shrubs, and grass on or adjacent to the premises, which, as determined by the Engineer, do not reasonably interfere with the performance of work. The Contractor will be held responsible for damage to any such areas and vegetation and for unauthorized cutting of trees and vegetation, including without limitation, damage arising from the performance of its work through operation of equipment or stockpiling of materials. All costs in connection with any repairs or restoration necessary or required by reason of any such damage or unauthorized cutting shall be borne by the Contractor.

P. Adequate warning and construction signs shall be maintained at the construction Site for the safety of the public. Additional signs for the convenience of the public shall be maintained as directed by the City.

Q. The Contractor shall maintain sufficient safeguards against occurrence of accidents, injuries, or damage to any person or property and shall be responsible for same if such occurs. The Contractor shall also maintain adequate protection of its work and materials from destruction and loss and shall protect the City's property from damage arising in connection with this contract, and shall make good any such damage, destruction or loss.

R. Contractor must pave pedestrian openings through falsework or provide full width continuous wood walks and keep all walkways clear. Contractor must protect pedestrians from falling objects and water runoff. Overhead protection for pedestrians must extend not less than four (4) feet beyond the edge of a structure.

S. Contractor's equipment must enter and leave the Project area via access routes designated or accepted in writing by City, and move in the direction of public traffic at all times. All movements on or across public traveled ways must not endanger public traffic.

T. Contractor must immediately remove any spillage, debris, dirt, or mud resulting from hauling operations along or across any public traveled way.

12.03 PROTECTION AND RESTORATION OF PROPERTY

A. California Civil Code §832 provides requirements relating to notification of adjacent property owners (30 Day notification required) and protection of adjacent property when performing excavation that may adversely impact the lateral and subjacent support to adjoining land or structures. In addition to these requirements and any other requirements imposed by law, Contractor must shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the Site of the Work which are in any way affected by the excavations or other operations connected with the Work pursuant to this Contract. Whenever any notice is required to be furnished by City or Contractor to any adjoining or adjacent landowner or other party before commencement of any Work pursuant to this Contract, Contractor must provide such notice. Contractor shall indemnify and hold City harmless from any damages for which City may become liable in consequence of such injury or damage to adjoining or adjacent structures and premises.

B. Contractor shall immediately repair, at Contractor’s sole cost and expense, any damage arising from or in consequence of the performance of the Contract, to improvements or property, whether above or

below the ground, private or public, within or adjacent to the Project. If, in City's opinion, City's best interests require such repair to be made before execution of any part of the Work included in this Contract, City will so notify Contractor who will delay or discontinue the performance of that part of the Work until the necessary repair has been made. Such delay shall not be considered unavoidable, and no extension of the Contract Time shall be allowed.

C. When Ordered by City to make any repair, Contractor shall start work thereon within four (4) hours and must prosecute the same with diligence to completion. Upon Contractor's failure to comply with such Order, or upon Contractor's failure to make immediate Emergency repairs which are necessary in the best interests of City or the public, City may cause such repairs to be made and deduct the costs thereof from any money due, or that may become due Contractor.

D. In an Emergency affecting the safety of life or property, including adjoining property, Contractor is authorized to act at its discretion, without special instructions or authorization from City, to prevent such threatened loss or injury, and Contractor must act whether or not instructed by City. Contractor must maintain adequate protection against damage to life and property involved in Project and on property adjacent thereto until Acceptance and must Provide all necessary guards, barricades, night lights, facilities, tools, equipment, materials and other needed or required protective devices.

E. Contractor will until Acceptance maintain adequate protection of all its Work and work performed by others pursuant to the Contract Documents from damage, loss, or defacement. Contractor must repair or replace any such damage and remove any damaged or defaced material or equipment from the premises at no extra cost to City except as may be due directly to errors in the Contract Documents or caused by City.

F. The Contractor must ensure the limits of Work to be free of graffiti or other similar defacements during the entire Contract Time; if such defacement occurs, the Contractor must promptly remove, repair, or correct the affected area(s). The Contractor must protect all exposed finished surfaces within the limits of Work (both temporary and final), with anti-graffiti coatings, and maintain such protection continuously during the entire Contract Time.

12.04 PRESERVATION OF CULTURAL RESOURCES

A. Pursuant to the National Historic Preservation Act of 1966, State laws and County ordinances, the following procedures are implemented to ensure historic preservation and fair compensation to Contractor for construction delays that may occur due to cultural resources discoveries.

B. In the event potentially historical, architectural, archaeological or cultural resources (hereinafter "resources") are discovered during subsurface excavations at the Project Site, the following procedures apply:

C. City will issue a "Cultural Resources – Suspend Work Order" Directing Contractor to temporarily suspend all operations at the location of such potential resources.

D. Such "Cultural Resources – Suspend Work Order" will be effective until such time as a qualified Consultant can assess the value of such resources and make recommendations. Any "Cultural Resources – Suspend Work Order" will contain the following:

1. A description of the potential resource, its location, and the area where Contractor's Work is suspended;
2. A description of what part or all of Contractor's Work is suspended;
3. Instructions regarding suspension of orders by Contractor for materials and services;
4. Guidance regarding action to be taken by Subcontractors;
5. Estimated duration of the temporary suspension.

E. If the Consultant determines that the potential find is indeed a cultural resource, City will, as expeditiously as possible, advise Contractor in writing of the action to be taken regarding the find, and the anticipated time frame and extent of any Work suspension.

F. Adjustment of Contract Time and Contract Sum

1. If, in the Notice Inviting Bids, the Work Site was deemed "Archaeologically Sensitive", then the Contract Time(s) includes five (5) work days of temporary suspension for cultural resources finds and there will be no payment for such suspension or any inefficiencies related thereto, up to a maximum cumulative duration of five (5) work days delay to the Critical Path(s) of the Official Progress Schedule. If such suspension occurs, the first five (5) work days of the Critical Path delay will be treated as an excusable non-compensable delay and the Contract Time will be extended in accordance with Section 00700-8.04, Time Extensions.
2. If a cultural discovery at an Archaeologically Sensitive Site results in a cumulative Critical Path delay that exceeds five (5) work days, then Contractor will be entitled to an adjustment of the Contract for the Critical Path delay in excess of five (5) work days. The Critical Path delay in excess of five (5) work days will be treated as an excusable compensable delay and the Contract Time will be extended in accordance with Section 00700-8.04, Time Extensions.
3. If a cultural resource discovery was unforeseen (i.e. if the Work Site was not deemed "Archaeologically Sensitive" in the Notice Inviting Bids), Contractor may be entitled to an adjustment of the Contract in accordance with Section 00700-8.04, Time Extensions.
4. If, as a result of a temporary suspension, City agrees that Contractor sustains a loss which could not have been avoided by judicious handling of its forces or equipment, or by redirection of forces or equipment to perform other Work on the Contract, Contractor will be paid for idle time of equipment and labor by Force Account as provided in Section 00700-9.02.D, Field Order- Force Account Work.

G. Documentation:

1. Beginning with the first Day of suspension, and for each following Day, Contractor must maintain detailed hourly records of the labor and equipment idled by such suspension, plus substantiation as to why such labor and equipment could not be used on other parts of the Work if such were the case. Such records must be of a form acceptable to City, signed by Contractor, and are subject to verification by City.
2. Failure by Contractor to furnish the aforesaid records constitutes a waiver of Contractor's right to an adjustment in the Contract Sum.

****END ARTICLE 12****

ARTICLE 13 - INSURANCE AND INDEMNIFICATION

13.01 INSURANCE

Contractor shall maintain, at its own expense, all the insurance required by this article and submit coverage verification for approval by the City prior to the City's execution of the Agreement.

The Agreement will not be executed by the City, and the Contractor shall not commence Work, until such insurance has been approved by the City. Such insurance shall remain in full force and effect at all times during the prosecution of the Work and until the Final Completion thereof. In addition, the commercial general liability insurance shall be maintained for a minimum of three (3) years after Final Completion of the Work. The City's issuance of the Notice to Proceed does not relieve the Contractor of the duty to obtain such insurance as required herein.

The Contractor shall require and verify that all subcontractors maintain insurance meeting all requirements stated herein, and Contractor shall ensure that the City is an additional insured on insurance required from subcontractors. For CGL coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII or equivalent and that are admitted to and authorized to do business and in good standing in California, unless otherwise approved by the City. In the case of workers' compensation and employer's liability insurance, coverage provided by the California State Compensation Insurance Fund is acceptable.

Each insurance policy required by the this article shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the City by the insurance carrier. Should the insurance carrier refuse to provide this notice, the Contractor shall be obligated to provide to the City thirty (30) days prior written notice of any insurance coverage being suspended, voided, reduced or canceled by either party, or any reduction in coverage or in limits.

The Contractor shall include all costs for insurance in its Total Bid Price.

Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations under the Contract Documents. For any claims related to Contractor's Work, as opposed to work City has contracted to parties other than Contractor, the Contractor's insurance coverage shall be primary insurance as respects the City, Construction Manager, Engineer, Funding Agencies and their directors, officers, elected officials, employees, agents, consultants, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, and volunteers. For any claims related to Contractor's Work, any insurance or self-insurance maintained by the City, Construction Manager, Engineer, Funding Agencies and their directors, elected officials, officers, officials, employees, agents, consultants, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.

All insurance coverage maintained or procured pursuant to this Contract shall be endorsed to waive subrogation against the City, Construction Manager, Engineer, Funding Agencies, and their directors, officers, elected officials, employees, agents, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, and volunteers or shall specifically allow Contractor - or others providing insurance evidence in compliance with these specifications - to waive their right of recovery prior to a loss. Contractor hereby waives its own right of recovery against the City, Construction Manager, Engineer, Funding Agencies, and their directors, officers, elected officials, employees, agents, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, and volunteers, and shall require similar written express waivers and insurance clauses from each of its subcontractors. Copies of these waivers shall be submitted to the City prior to commencement of work.

Any failure of the Contractor to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the City, Construction Manager, Engineer, Funding Agencies and their directors, elected officials, officers, officials, employees, agents, consultants, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, or volunteers.

The Contractor shall take out, pay for, and maintain throughout the duration of the Contract and for such additional periods as more specifically required herein the following insurance against claims for injuries to persons or damages to property which may be caused by the performance of the Work hereunder by the Contractor, the Contractor's agents, representatives, employees or subcontractors, or from operations under the Agreement.

A. Commercial General Liability and Automobile Liability Insurance – This insurance shall protect the Contractor from claims for bodily injury, personal injury and property damage which may be caused by the performance of the Work hereunder by the Contractor, the Contractor's agents, representatives, employees or subcontractors, or from operations under the Contract Documents. The commercial general liability insurance shall be maintained for three (3) years after Final Completion of the Work and shall provide coverage on an occurrence basis.

1. Additional Insureds – The commercial general liability and automobile policies of insurance shall include as additional insureds or be endorsed to contain the following provisions: the City, Construction Manager, Engineer, Funding Agencies and their directors, elected officials, officers, officials, employees, agents, consultants and volunteers are to be covered as additional insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor and or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, Construction Manager, Engineer, Funding Agency, Design Engineer, and their directors, elected officials, officers, officials, employees, agents, consultants, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, or volunteers and coverage provided to such additional insured. This policy shall provide coverage to each of the said additional insureds with respect to said work. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

2. Minimum Amount of Coverage (General Contractor) – Commercial General Liability (CGL): Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than $5,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit. Automobile Liability: Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than $5,000,000 per accident for bodily injury and property damage. Any self-insured retentions must be declared to and approved by the City.

   If the contractor maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

3. Minimum Amount of Coverage for all Listed Subcontractors included in Section 00430 - The Contractor shall require and verify that all subcontractors maintain insurance meeting all requirements stated herein: The bodily injury, personal injury and property damage liability of the Commercial General Liability insurance shall provide coverage in the following minimum limits of liability: $2,000,000 on account of any one occurrence for bodily injury and property damage, $4,000,000 personal and advertising injury limit with an annual general aggregate limit of not less than $4,000,000, and $2,000,000 products and completed operations aggregate, combined single limit. The Automobile Liability insurance policy shall provide minimum limits of $1,000,000 per accident as a combined single limit arising out of the ownership, maintenance, or use of any owned or non-owned vehicles. These minimum amounts of insurance coverage do not preclude the Contractor from requiring higher limits or additional insurance coverage as it deems necessary.

4. Minimum Amount of Coverage for Subcontractors NOT included in Section 00430 - The Contractor shall require and verify that all subcontractors maintain insurance meeting all requirements stated

herein. The bodily injury, personal injury and property damage liability of the Commercial General Liability insurance shall provide coverage in the following minimum limits of liability: $2,000,000 on account of any one occurrence for bodily injury and property damage, $1,000,000 personal and advertising injury limit with an annual general aggregate limit of not less than $2,000,000, and $1,000,000 products and completed operations aggregate, combined single limit. The Automobile Liability insurance policy shall provide minimum limits of $1,000,000 per accident as a combined single limit arising out of the ownership, maintenance, or use of any owned or non-owned vehicles. These minimum amounts of insurance coverage do not preclude the Contractor from requiring higher limits or additional insurance coverage as it deems necessary.

5. Subcontractors – The bodily injury and property damage liability insurance shall not be deemed to require the Contractor to have its subcontractors named as additional insureds in the Contractor's policy, but the policy shall protect the Contractor from contingent liability which may arise from operations of its subcontractors.
6. Included Coverage – The above commercial general liability insurance shall be at least as broad as the most current ISO CGL Form 00 01 including, but not limited to, also include the following coverages:
    - Premises – Operations.
    - Independent Contractors.
    - Products - Completed Operations.
    - Personal Injury - False Arrest, Libel, Wrongful Eviction, etc.
    - Advertising Injury.
    - Broad Form Property Damage - Including, Completed Operations.
    - Separation of Insureds/Cross-Liability Provision.
    - Duty to Defend all Insureds.
    - Deletion of any Limitation on Coverage for Bodily Injury or Property Damage Arising out of Subsidence or Soil or Earth Movement.
    - Additional Insured Coverage Not Limited to Vicarious Liability – Insurance coverage for additional insureds shall be for all covered acts and occurrences, whether or not they arise out of, or result from, the Contractor's own acts or omissions in performing the Work.
    - Separate Aggregate – A provision that the annual general aggregate shall apply separately to each project for which Contractor provides services away from premises owned by or rented to Contractor.
    - XCU – Explosion, Collapse, Underground Damage.
    - Blanket Contractual Liability – Provisions or endorsements shall state that the insurance, subject to all of its other terms and conditions, applies to the liability assumed by the Contractor under the Agreement, including, without limitation, insurable liabilities set forth in the indemnity articles of the Contract Documents.
7. Umbrella Policy – The Contractor may use an umbrella or excess policy to meet the limits requirement of Article 13.01.A.2, and listed subcontractors may use an umbrella or excess policy to meet the limit of requirements of Article 13.01.A.3. However, any such umbrella/excess policy must be approved by the City and maintain an A.M. Best Rating of no less than A:VII.

B. Workers' Compensation Insurance – In accordance with the provisions of Article 5, Chapter 1, Part 7, Division 2 (commencing with Section 1860) and Chapter 4, Part 1, Division 4 (commencing with Section 3700) of the Labor Code of the State of California, the Contractor is required to secure the payment of compensation to its employees and for that purpose obtain and keep in effect adequate Workers' Compensation Insurance. In accordance with California Labor Code Section 1861, the Contractor shall sign and include Section 00560, Workers Compensation Insurance Certificate, with the Contract. If the Contractor, in the sole discretion of the City, satisfies the City of its responsibility and capacity under

the applicable Workers' Compensation Laws, if any, to act as self-insurer, the Contractor may so act, and in such case, the insurance required by this article need not be provided.

The Contractor is advised of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and shall comply with such provisions and have employers' liability limits of $1,000,000 per accident and per employee, and in the aggregate for injury by disease, before commencing the performance of the Work of this Agreement.

Before the Notice to Proceed with the Work under this Contract is issued, the Contractor shall submit written evidence that the Contractor has obtained for the period of the contract workers' compensation and employer's liability insurance as required for all persons whom it employs or may employ in carrying out the Work under this Agreement. Such evidence of coverage shall be accompanied by an endorsement from the insurer agreeing to waive all rights of subrogation against the City, Construction Manager, Engineer, Funding Agencies and their directors, elected officials, officers, officials, employees, agents, consultants, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, and volunteers which might arise by reason of any payment under the policy. This insurance shall be in accordance with the requirements of the most current and applicable State Workers' Compensation Insurance Laws.

C. Professional Liability Insurance – All submittals required of the Contractor which are to be prepared by a licensed California engineer shall be prepared only by a licensed engineer who is covered by a professional liability insurance policy issued by a California-admitted carrier or a carrier authorized to do business in California with a Best's rating of A:VII or better, with an limit per claim of at least $2,000,000, and a $4,000,000 in the aggregate for errors and omissions. Such insurance shall be maintained in effect by said engineer at all times while performing Work on the Project and for at least three (3) years after Final Completion of the Project. Contractor shall submit an insurance certificate for such engineer prior to beginning Work for approval by the City.

D. Builder's Risk Insurance – Until the completion and final acceptance by City of all the Work under and implied by this Contract, the Work shall be under the Contractor's responsible care and charge. The Contractor shall rebuild, repair, restore, and make good all injuries, damages, re-erections, and repairs occasioned or rendered necessary by causes of any nature whatsoever. Contractor shall provide "Special Form" Builder's Risk Insurance on the replacement cost basis as listed below:

Amount of Coverage - Equal to the full replacement cost of the Work on a completed value basis, without deduction for depreciation and shall also provide coverage for "soft costs" such as but not limited to design and engineering fees and inspection costs caused by an insured peril, up to a maximum total for all soft costs of $250,000. The builder's risk insurance may contain sub-limits not less than the following:

- Debris removal - $250,000.
- Pollution Clean-up cost - $25,000.

Additional Insureds/Loss Payees - This insurance shall name the City, Engineer, Construction Manager, the Funding Agencies and Contractor as insureds/loss payees, as their interests may appear. Builder's risk insurance policies shall contain the following provisions:

1. The City, Engineer, Design Engineer, Construction Manager, Contractor and subcontractors of every tier shall be named as insureds.
2. Each insured shall waive all rights of subrogation against each of the other insureds.

Included Coverage – The above builder's risk insurance shall include the following coverages:

1. Including, but not by way of limitation, for all damages of loss to the Work and to appurtenances, to materials and equipment to be incorporated into the Project while the same are in transit, stored on or off the Site, to construction plant and temporary structures.
2. Such insurance shall cover, but shall not be limited to, the perils of fire, lightning, windstorm, hail, explosion, riot, riot attending a strike, civil commotion, smoke damage, damage by aircraft or vehicles, vandalism and malicious mischief, theft, collapse, and flood.
3. The policy shall cover the costs of debris removal, including demolition as may be made

reasonably necessary by the application of any law, ordinance, or regulation.

4. Start-up & testing, and machinery breakdown including electrical arching.
5. Consequential losses due to delay in completing the Work. The builder's risk insurance limit for consequential losses is $1,000,000.
6. The policy shall provide the City the right to occupy the premises without termination of the policy until Final Completion of the Project.

Deductibles - Builder's risk insurance may have a deductible clause not to exceed the amounts below. Contractor shall be responsible for paying any and all deductible costs.

All Other Perils - $50,000.

Application of Loss Proceeds - In the event of a covered loss, proceeds of builder's risk insurance shall be applied first to reimburse actual costs of demolition, debris removal, reconstruction, and repair or replacement incurred in the discharge of the Contractor's obligations of repair or replacement under this Contract. Insurance proceeds shall be deposited in a separate account in a local bank satisfactory to the City and shall be withdrawn only with the City's written approval to reimburse such actual costs as the builder's risk carrier has agreed to reimburse. The City shall have no liability for failure of the builder's risk carrier to pay for any particular cost of repairs. In the event of the termination of the Contractor for default, the Contractor shall forfeit all rights to builder's risk insurance proceeds and City may expend such proceeds to complete the Project as if they were unpaid contract monies.

E. Contractor's Pollution Liability Insurance. The Contractor shall obtain Pollution Liability Insurance. This insurance shall cover liability for bodily injury, property damage, and environmental damage resulting from pollution and related cleanup costs incurred, all arising out of any Work to be performed under the Agreement, including liability for and defense of lawsuits and regulatory actions. Coverage shall be provided for both Work performed on Site, as well as during the transport of hazardous materials. Coverage shall apply to sudden as well as gradual pollution conditions, including without limitation conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants, including asbestos. The liability limits shall be not less than:

- Each occurrence or claim: $2,000,000.
- General Aggregate: $2,000,000.

If the coverage required is written on a claims-made coverage form:

- The retroactive date must be shown, and this date must be before the award date of the Agreement.
- Insurance must be maintained, and evidence of insurance must be provided for at least five (5) years after final payment.
- If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the Agreement award date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after Final Payment.
- A copy of the claims reporting requirements must be submitted to the City for review.

F. Proof of Coverage – Before execution of the Contract, the Contractor shall furnish the City with certificate(s) evidencing issuance of all insurance mentioned herein, copies of the policy declaration or information page(s) and additional insured endorsements. The certificate(s) and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on endorsement forms acceptable to the City. The certificate(s), policy declaration or information page(s), and endorsements are to be received and approved by the City before Work commences. Except for the waiver of subrogation rights endorsements, as required herein, no other endorsements are required for workers compensation or excess liability insurance. Such certificates of insurance shall provide that the insurance policy shall be endorsed to state that coverage shall not be suspended, voided, cancelled by either party, reduced in coverage or limits except after thirty (30) days prior written notice has been given to the City. The Contractor shall also provide certificate(s) evidencing renewals of all insurance required herein prior to the expiration date of any such insurance. The City reserves the right to require complete, certified copies of all required insurance policies, at any time.

For all insurance policy renewals during the term of this Contract, Contractor shall send insurance certificates reflecting the policy renewals directly to the City of Yuba City 1201 Civic Center Boulevard, Yuba City, CA, 95993.

Any self-insured retentions must be declared to and approved by the City. At the option of the City, either:

- The insurer shall reduce or eliminate such self-insured retentions as respects the City, Construction Manager, Engineer, Funding Agencies and their directors, elected officials, officers, officials, employees, agents, consultants, attorneys, divisions, related agencies and entities, successors and assigns, contractors and representatives, and volunteers; or
- The Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

In the event of the breach of any provision of this article, or in the event of any notices received which indicates any required insurance coverage will be diminished or canceled, City, at its option, may, notwithstanding any other provisions of this Agreement to the contrary, declare a material breach of this Agreement and suspend all further work pursuant to this Agreement until Contractor has provided evidence that its insurance coverage meets the requirements of the Contract Documents.

G. Third Party Insurance Requirements - The Work, as contemplated by the Contract Documents does specifically require an encroachment permit(s) from other public agencies, railroads, and/or utilities. Contractor shall ensure that the insurance it obtains in accordance therewith complies with all requirements mandated by each permitting agency from whom permits shall be obtained for the Work and any other third parties from whom third party agreements are necessary to perform the Work (collectively, the "Third Party(ies)"). To the extent there is a conflict between the Third Party(ies)'s Insurance Requirements and those set forth by the City herein, the requirement(s) providing the more protective coverage for both the City and the Third Party(ies) shall control and be purchased and maintained by Contractor.

Contractor shall be responsible to determine what insurance requirements exist as a condition precedent to obtaining permit(s) for the Work, if any. Contractor shall be solely responsible for any delay(s) arising from its failure and/or its subcontractors' failure to timely obtain all required insurance.

All required third party insurance shall be submitted to the City at the same time Contractor submits all other contractually required insurance, which is no later than ten (10) days after Notice of Intent to Award, unless otherwise agreed to in writing by the City prior to this deadline.

H. Insurance During Guarantee Period - For all work the Contractor or its subcontractors perform during the guarantee period, workers compensation and commercial general liability insurance in the amounts and format required herein shall remain in force and be maintained for three (3) years after Final Completion of the Work.

The Contractor shall be responsible for paying any and all deductible costs for claims against its workers compensation and commercial general liability insurance.

13.02 GENERAL INDEMNIFICATION OBLIGATIONS

A. The Contractor shall indemnify, defend with counsel acceptable to City, and hold harmless to the full extent permitted by law, at the Contractor's expense, the City, and their directors, elected officials, officers, officials, employees, agents, consultants, design engineers, Funding Agencies and each of them (collectively the "Indemnified Parties"), from and against any and all liability, loss, damage, claims, actions, causes of action, expenses and costs (including, without limitation, reasonable City staff attorney fees and outside attorney fees, and costs and fees of litigation) (collectively, "Liability") of every nature to the extent caused by Contractor's negligent performance of the Work under this Agreement or its failure to comply with any of its obligations contained in this Agreement, except that such obligation to defend and indemnify does not apply to the extent such Liability was caused by the active negligence, sole negligence or willful misconduct of the Indemnified Parties. Such indemnification by the Contractor shall include, but not be limited to, the following:

1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the Contractor, its subcontractors, employees, or agents in the performance of the Work, or in

guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the Contractor, its employees, or agents;

2. Liability or claims arising directly or indirectly from Contractor's negligent acts that cause bodily injury, occupational sickness or disease, or death of the Contractor's, or supplier's own employees, or agents engaged in the Work resulting in actions brought against the Indemnified Parties;
3. Liability or claims arising directly or indirectly from or based on the violation of any laws or regulations, whether by the Contractor, its subcontractors, employees, or agents;
4. Liability or claims arising directly or indirectly from the negligent or legally unauthorized use or manufacture by the Contractor, its subcontractors, employees, or agents in the performance of this Agreement of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specified stipulated in this Agreement.
5. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the City or any other parties by the Contractor, its subcontractors, employees, or agents;
6. Liability or claims arising directly or indirectly from the willful misconduct of the Contractor, its subcontractors, employees, or agents;
7. Liability or claims arising directly or indirectly from any breach of the obligations assumed in this Agreement by the Contractor;
8. Liability or claims arising directly or indirectly from, relating to, or resulting from a hazardous condition created by the Contractor, subcontractors, suppliers, or any of their employees or agents due to Contractor's negligence or breach of any obligation in this Agreement;
9. Liability or claims arising directly, or indirectly, or consequentially out of any action, legal or equitable, brought against the Indemnified Parties, their consultants, subconsultants, and the directors, officers, elected officials, employees, agents and volunteers of each or any of them, to the extent caused by the Contractor's negligent or improper use of any premises acquired by permits, rights of way, or easements, the Site, or any land or area contiguous hereto or its performance of the Work thereon;
10. Liability arising directly or indirectly from exposure to hazards in violation of the California Labor Code that may be asserted by any person or entity, including, but not limited to, the Contractor, arising out of or in connection with the negligent activities of the Contractor, its agents, employees or privities pursuant to this Agreement, whether or not there is concurrent negligence on the part of the Indemnified Parties;
11. Liability or claims arising out of the Contractor's performance of the Work.

B. The Contractor shall reimburse the Indemnified Parties for all costs and expenses, (including but not limited to reasonable fees and charges of engineers, architects, attorneys, and other consultants and professionals and court costs of appeal) incurred by said Indemnified Parties arising out of or in enforcing the provisions of this article.

C. The indemnification obligation under this Article 13.02 shall not be limited in any way by any limitation on the amount or type of insurance carried by Contractor or by the amount or type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts.

D. Pursuant to California Public Contract Code Section 9201, City shall timely notify Contractor of receipt of any third-party claim relating to this Contract.

E. The Contractor's obligations pursuant to this provision will survive the expiration or earlier termination of this Agreement.

F. The Contractor hereby agrees at its expense promptly to assume the defense of and to defend, with counsel acceptable to the City, against any indemnified Claim, suit or other proceeding brought thereon, and promptly to pay any and all costs, charges, attorney's fees, and other expenses and any and all

judgments that may be incurred against the City, and each elected officials, officers, representatives, agents, consultants, design engineers or employees, or any of them to the extent arising from any negligent act, error, or omission, or from any willful misconduct of the Contractor in the performance of the Contractor's obligations under this Agreement.

G. The only limitations on this provision shall be those imposed by Civil Code section 2782.

13.03 HAZARDOUS SUBSTANCE INDEMNIFICATIONS OBLIGATIONS

Neither the Contractor nor its subcontractors or suppliers shall use, generate, manufacture, store or dispose of on, under or about the Site, or transport to, from, along or across the Site, any flammable, explosive radioactive material, toxic substance, hazardous waste, hazardous material, hazardous substance, or the equivalent, as those terms may now or in the future be defined by common practice or by any federal, state or local statute, ordinance or regulation or any governmental body or agency (hereinafter “Hazardous Substance”).

A. Without limiting any remedies the City may have, in the event any disposal, release, discharge or spill of a Hazardous Substance or other contamination occurs within the Site at any time during, or as a result of, the Contractor’s use of the Site, except such spills or contamination to the extent directly caused by the sole negligence or willful misconduct of the City, its contractors, officers, representatives, agents, consultants, design engineers or employees, the Contractor shall immediately notify City and take all action to mitigate the effects of such disposal, release, discharge, spill or contamination. The Contractor shall at the Contractor’s own expense, unless otherwise directed by the City, remediate such disposal, release, discharge of spill or contamination in compliance with all applicable laws, rules and regulations. The City shall have the option to perform the remediation itself or through any contractor if the Contractor fails to do so. The Contractor shall cooperate with the City to complete the remediation and shall reimburse the City for all costs and expenses incurred in connection with the remediation.

B. In the event that the Contractor observes any material that the Contractor believes or has reason to believe may be a Hazardous Substance or encounters any unknown physical condition of any unusual nature within the Site, other than disposals, releases, discharges, spills or contamination covered in paragraph A, above, the Contractor shall, without disturbing the condition, immediately cease all use of the Site and notify the City. The City shall investigate the condition and take any clean-up or other remedial action City deems necessary in its sole discretion.

C. In the event the City or its contractor elects to perform remediation work, the Contractor shall upon notice from the City, cease use of the Site as directed in the notice. The City will notify the Contractor when the condition has been resolved, at which time, but not before, the Contractor may resume its use of the Site.

D. The Contractor agrees to assume liability for and to defend and hold harmless the Indemnified Parties from and against all injuries or death to any person and damage to any property, and all related expense, including without limitation attorneys’ fees, investigators’ fees, administrative charges, litigation expenses and any judgments, fines, penalties or other charges assessed against Indemnified Parties, resulting from the Contractor’s failure to comply with this article and any laws, rules or regulations concerning the subject matter hereof. The provisions of this article shall survive the expiration and termination of this Agreement.

The obligations and liabilities arising under the Article 13.03, HAZARDOUS SUBSTANCE INDEMNIFICATIONS OBLIGATIONS, shall be in addition to and independent of those obligations and/or liabilities arising under the other provisions of this Agreement and shall in no way limit, alter, reduce or eliminate the effect of such other provisions.

E.

****END ARTICLE 13****

ARTICLE 14 - UNCOVERING AND CORRECTION WORK

14.01 GENERAL

A. The Contractor must notify the Construction Manager two (2) days prior to covering any Work.

B. If a portion of the Work is covered prior to Construction Manager's review, it must, if requested in writing by the Construction Manager, be uncovered for Construction Manager observation and replaced at the Contractor's expense without change in the Contract Time.

14.02 CORRECTION OF WORK AND CORRECTIVE ACTION PLANS

A. The Contractor must promptly correct Work rejected by Construction Manager or Work failing to conform to the requirements of the Contract Documents, whether or not Fabricated, Installed or completed, even if such non-conforming Work was previously inspected or approved by the City or the Construction Manager. The Contractor bears the costs of correcting such rejected Work, including additional testing and inspections required, and compensation for City provided services and expenses made necessary thereby.

B. The Contractor may take one of two actions to remediate Work that does not conform to the Contract Documents:

   1. Contractor may, at his own expense, remove defective Work and install Work that complies with the Contract Documents;

   2. Contractor may develop and submit to Construction Manager, as a Submittal (not an RFI), a Corrective Action Plan (CAP). The CAP describes possible solution(s) to address the defective Work including "work-arounds" that would leave the defective Work in place. To facilitate the City's review and possible acceptance of the CAP the Contractor may employ the services of a licensed Engineer or Architect to develop, sign and stamp the CAP for submission to the City.

      a. Alternatively, the Contract may submit a CAP that is more general in description and substance and leave it to the Design Engineer to evaluate and develop a formal solution. The Contractor shall compensate the Design Engineer for costs incurred via City issuance of a deductive change order to the Contract.

   3. In the event the City determines that a practical solution is not available that would enable the defective Work to be left in place, then the Contractor must remove the defective Work and build per the Contract Documents.

C. Notwithstanding Section 00700-14.02.A, in the event of an Emergency constituting an immediate hazard to the health or safety of City's employees, agents, representatives, property, or licensees, City may undertake, at the Contractor's expense and without prior notice, all work necessary to correct such hazardous condition(s) when it was caused by work of the Contractor not being in accordance with requirements of the Contract Documents.

D. The Contractor must remove from the Project Site portions of the Work that are not in accordance with the requirements of the Contract Documents, and are neither corrected by the Contractor nor accepted by the City.

E. If the Contractor fails to correct nonconforming Work, as per Section 00700-14.02.A, or fails to remove nonconforming work, as per Section 00700-14.02.C, City may correct or remove the nonconforming Work per Section 00700-14.02.E.

F. If the Contractor does not submit a Corrective Action Plan or proceed with correction or removal of nonconforming Work, within such time fixed by the Contract Documents or written notice from Construction Manager, the City may remove and store the salvable materials, articles and/or equipment at the Contractor's expense. If the Contractor does not pay all costs of such removal and storage within fourteen (14) Days after written notice, City may, upon fourteen (14) additional Days written notice, sell such materials articles and/or equipment at an auction or private sale, and shall account for the proceeds thereof, after deducting costs and damages that would have been borne by the Contractor, including compensation for City services and expenses made necessary thereby. If the proceeds of a sale do not cover all costs that the Contractor would have borne, the Contract Sum will be reduced by

the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor must pay the difference to City.

G. The Contractor bears the cost of correcting destroyed or damaged Work, which is caused by the Contractor's correction, or removal of Work that is not in accordance with requirements of the Contract Documents, including work performed by City or separate contractors that is damaged or destroyed by the Contractor during the Contract Time or Guarantee period.

H. Nothing contained in this Section 00700-14.02, Correction of the Work and Correction Action Plans, establishes a period of limitation with respect to other obligations that the Contractor might have in the Contract Documents. Establishment of the Warranty/Guarantee period(s), as described in Section 00700-15.12, Warranties & Guarantees, relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with requirements of the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

14.03 ACCEPTANCE OF NONCONFORMING WORK

A. If City prefers to accept any or all of the Work that is not in accordance with requirements of the Contract Documents, City may do so instead of requiring its correction and/or removal, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not Final Payment to the Contractor has been made.

****END ARTICLE 14****

ARTICLE 15 - FINAL COMPLETION AND ACCEPTANCE

15.01 USE BEFORE ACCEPTANCE

A. City has the right to utilize or place into service any item of equipment or other usable portion of the Work before Final Acceptance of the entire Project. Whenever City plans to exercise said right, City's Representative will notify Contractor in writing, identifying the specific portion or portions of the Work to be so utilized or otherwise placed into service, hereinafter referred to as "Use Before Acceptance".

B. Until the City's Representative issues such written notification, Contractor is responsible for all care and maintenance of all items or portions of the Work.

C. Upon City's issuance of written notice of Use Before Acceptance, City accepts responsibility for the protection and maintenance of all such items or portions of the Work described in the written notice, excepting any injury or damage resulting from Contractor's actions or negligence.

D. If, by reason of City's Use Before Acceptance, the premium for the Contractor's bodily injury and property damage insurance is increased, City will reimburse the Contractor for the additional amount necessarily incurred, allocable to the area and the period of City's occupancy, up to the Date of Acceptance of the Work.

E. City's Use Before Acceptance does not constitute Acceptance of the Work, or any portion of the Work, by City, nor will it relieve the Contractor of responsibility for correcting defective and/or Deficient Work or materials found at any time before Acceptance of the Work or during the Guarantee period after City's Acceptance. However, when the Project includes separate buildings, and one or more of the buildings is entirely occupied by City, then upon written request by the Contractor and by written consent from City, the Guarantee period on the building entirely occupied by City will commence to run from the date of City occupancy of such building or buildings.

F. Notwithstanding any Use Before Acceptance, Contractor retains full responsibility for fulfillment of all the requirements of the Contract Documents.

G. Should the City elect to partially occupy or use portions of the Work prior to Acceptance, Contractor must perform final cleaning for those portions of the Work prior to their being so occupied or used.

15.02 CONTRACTOR'S RESPONSIBILITY TO MANAGE INCOMPLETE AND DEFICIENT WORK

A. Pursuant to Section 01450, Quality Control and Inspection, the Contractor is responsible for identifying and managing Incomplete and Deficient work. Incomplete and Deficient work includes, but is not limited to: non-compliance items, re-work items, and non-conforming tests, pursuant to Section 01450; deficiencies relating to inspections by the Building Official if applicable to this Contract; and items of work not complete per the Contract Documents.

B. The Preliminary Final Inspection and Final Inspection will not be conducted until:

1. The entire Work of the Milestone/Project is complete;
2. Cleaning and waste management has occurred pursuant to the Contract Documents; and
3. Deficient Work identified in all outstanding non-compliance notices has been corrected.

C. For each completion Milestone, Contractor must include activities for conducting the Preliminary Final Inspection, completion of Punch-list, and Final Inspection, in Contractor's Progress Schedule.

15.03 COMPLETION OF INTERMEDIATE MILESTONES

A. When the Construction Manager determines that all Work of a Milestone is complete, including cleaning, the Construction Manager must so certify to the City's Representative and request a Preliminary Final Inspection, pursuant to Section 01450, Quality Control and Inspection.

B. If the Contract Documents include a Milestone for the completion of the entire Work of the Project, three (3) copies of the Milestone Completion certification must be submitted concurrently with the Contractor's certification that all the Work of the Project is complete as required by Section 00700-15.03.A.

15.04 PRELIMINARY FINAL INSPECTION FOR INTERMEDIATE MILESTONE(S)

A. Within seven (7) Days of receipt of Construction Manager's certification that all Work of a Milestone is complete, City's Representative, Project Inspector, Architect of Record, and other staff, will conduct a Preliminary Final Inspection with the Construction Manager and the Project Superintendent.

B. If the City's Representative determines that, based on the results of the Preliminary Inspection, the Incomplete/Deficient work identified is greater in substance and/or volume, than can be appropriately declared as Punch-list, then the Work is not complete enough to complete the Preliminary Final Inspection. The Contractor will be so notified in writing. Contractor must complete the Work and re-initiate procedures for another Preliminary Final Inspection. Any costs to City for more than two (2) Preliminary Inspections may be charged to the Contractor.

C. If the results of the Preliminary Final Inspection are satisfactory to the City's Representative, a Punch-list will be prepared and issued to the Contractor. Pursuant to Section 01450, Quality Control and Inspection, neither the City's preparation of the Punch List, nor any omission from the Punch-list of items of Incomplete and/or Deficient Work, relieves the Contractor from completing all the Work required by the Contract Documents.

15.05 FINAL INSPECTION FOR INTERMEDIATE MILESTONE(S)

A. When the Punch-list generated from the Preliminary Final Inspection is complete the QC Manager must certify that the entire Work of the Milestone, including Punch-list, is complete. Upon delivery of such certification to the City's Representative, and if the City's Representative agrees with the Contractor's certification, a Final Inspection will occur within ten (10) calendar days of the Contractor's delivery of certification of final completion

B. If the City's Representative determines the Work is deficient, Contractor will again be furnished with a Punch-list identifying the observed deficiencies in the Work. After all deficiencies have been corrected, Contractor must initiate procedures for another Final Inspection. If more than two (2) Final Inspections are required any costs to City for additional Final Inspections may be changed to the Contractor.

C. If the results of the Final Inspection are satisfactory, the City's Representative will issue the Contractor a Milestone Completion letter.

D. Contractor's Progress Schedule must include activities for Final Inspection of Milestones.

15.06 COMPLETION OF FINAL PROJECT MILESTONE

A. Pursuant to Section 01450, Quality Control and Inspection, the Contractor's Quality Control Manager must certify that the final Milestone for the Work is complete. Completion of the Work of the Final Milestone includes, but is not limited to, submission to and acceptance by the City of all Milestone completion submittals. Section 01770, Contract Closeout, describes in greater detail the submittal requirements to achieve Milestone Completion. Additionally, all training (except previously-scheduled factory training) must be completed.

B. Conducting the Preliminary Final Inspection, and Final Inspection, of the Work required of the final Project Milestone, follows the requirements of paragraphs 15.04 and 15.05 above.

C. The Contractor's QC Manager's certification also includes the completion of all Punch-list work and the correction of all rework.

D. The Contractor must submit all documents required by Section 01770, Contract Closeout.

E. After acceptance of the Contractor's QC Manager's final certification, the City's Representative will issue a Milestone Completion letter to the Contractor. This letter will establish the date of the Final Milestone Completion of the Work of the Project. The assessment of Liquidated Damages, if any, will cease accruing as of the date of Final Milestone Completion.

15.07 RECOMMENDATION FOR ACCEPTANCE BY THE CITY ENGINEER

A. After establishing Final Milestone Completion of the Work, the City's Representative will recommend that the City Engineer formally accept the Work if the Contractor has satisfactorily:

1. Corrected all deficiencies observed during the Final Inspection and no new deficiencies have been observed;
2. Submitted required copies of As-Built Documents;
3. Submitted required Spare Parts;
4. Submitted copies of all documents required by Section 01770, Contract Closeout; and
5. Submitted all other required contract deliverables.

B. The Project Manager must submit the following Project Completion certification prior to City Engineer Acceptance of the Project:

> *"I certify that, to the best of my knowledge, all Work of the Project is Complete, including the fulfillment of all administrative requirements of the Contract. I request the City accept the Project as complete."*

_____

Project Manager of the Contractor

15.08 ACCEPTANCE OF THE WORK

A. Acceptance of the Work will be made by the City Engineer, only after the City's Representative has recommended Acceptance.

B. After the formal Acceptance of the Work, the City will record a Notice of Completion.

C. City's Acceptance establishes conformity with the Contract except for delays in completion, latent defects, fraud, or such gross errors as amount to fraud, willful misconduct, or gross negligence, and subject to any Guarantee and Warranty, express or implied.

D. Determinations by City's Representative that the Work is complete or Acceptance of the Work by the City Engineer, does not bar any action by the City against the Contractor pursuant to Section 00700-15.12, Warranties & Guarantees.

15.09 FINAL PAYMENT – SEE ARTICLE 10.09- FINAL INSPECTION AND PAYMENT

15.10 CONTRACTOR'S DUTIES AND RESPONSIBILITIES AFTER ACCEPTANCE

A. After Acceptance of the Work, Contractor is relieved of the duty of maintaining and protecting the entire Work, and Contractor is not required to perform any further Work thereon, except as otherwise required by law or the Contract Documents.

B. Contractor is relieved of responsibility for injury to persons or property or damage to the Work that occurs after City's Acceptance, provided that such injury/damage is not in any way caused by Contractor.

C. City's Acceptance does not relieve Contractor of responsibility for faulty materials or workmanship or of complying with the requirements of Warranties and Guarantees.

15.11 RETENTION PROCEEDS, WITHHOLDING AND DISBURSEMENT

A. Pursuant to California Public Contract Code §7107, within sixty (60) Days after the date of "completion" of the Work, the retention withheld by City shall be released, subject to all withholds required and authorized by law including Stop Notice claims and Liquidated Damages (pursuant to California Government Code §53069.85). In the event of a Dispute between City and Contractor, City may withhold from the Final Payment an amount not to exceed one hundred fifty percent (150%) of the disputed amount.

B. For purposes of release of retention, "completion" means any of the following:

1. The Acceptance by City of the Work.
2. After the commencement of Work, a cessation of labor on the Work for a continuous period of one-hundred (100) Days or more, due to factors beyond Contractor's control.
3. After the commencement of Work, a cessation of labor on the Work for a continuous period of thirty (30) Days or more, if City records a Notice Of Cessation or a Notice Of Completion with the County Recorder.

C. Subject to Section 00700-15.11.D below, within seven (7) Days from the time that all or any portion of the retention proceeds are received by Contractor, Contractor must pay each of its Subcontractors from whom retention has been withheld, each Subcontractor's share of the retention received. However, if a retention payment received by Contractor is specifically designated for a particular Subcontractor, payment of the retention shall be made to the designated Subcontractor, if the payment is consistent with the terms of the Subcontract. (California Public Contract Code §7107(d))

D. Contractor may withhold from a Subcontractor its portion of the retention proceeds if a bona fide dispute exists between the Subcontractor and Contractor. The amount withheld from the retention payment shall not exceed one hundred fifty percent (150%) of the estimated value of the disputed amount.

E. In the event that retention payments are not made within the time periods required by California Public Contract Code (PCC) §7107, the City or Contractor withholding the unpaid amounts shall be subject to a charge of two percent (2%) percent per month on the improperly withheld amount, in lieu of any interest otherwise due. Additionally, in any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to attorney's fees and costs. (PCC §7107)

15.12 WARRANTY & GUARANTEES

A. Neither the final Acceptance, nor payment, nor any provision in the Contract Documents relieves Contractor of responsibility for faulty materials or workmanship.

B. Contractor must guarantee all workmanship and materials for a period of one year, or as specified in the technical sections of the Contract Documents (specifications), from and after the Date of Acceptance of the Work by the City’s Director of Public Works.

C. Contractor may also be required to furnish a written Guarantee covering all or certain items of Work for longer periods of time from the Date of Acceptance of the Contract. The Work to be Guaranteed, the form, and the time limit of the Guarantee will be specified in the Contract Documents. Said Guarantee must be signed and submitted to City before Acceptance of the Work.

D. The Warranty/Guarantee period begins at the Date of Acceptance of the Work by the City Engineer.

E. In addition to any other warranties in this contract, the Contractor warrants, except as provided in Paragraph J of this clause, that work performed under this Contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

F. This Warranty shall continue for a period of one year from the date of final acceptance of the work by the City Engineer. If, pursuant to Section 00700-15.01 above, City takes possession of any part of the work before final acceptance, this Warranty shall continue for a period of 1 year from the date the City takes possession the specific Work identified pursuant to 15.01.

G. The Contractor shall remedy at the Contractor’s expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor’s expense any damage to City-owned or controlled real or personal property, when that damage is the result of:

1. The Contractor’s failure to conform to contract requirements; or
2. Any defect of equipment, material, workmanship, or design furnished.

H. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor’s Warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

I. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall—

1. Obtain all warranties that would be given in normal commercial practice;
2. Require all warranties to be executed, in writing, for the benefit of the City, if directed by the City's Representative; and
3. Enforce all warranties for the benefit of the City, if directed by the City's Representative.

J. Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the City nor for the repair of any damage that results from any defect in City-furnished material or design.

K. This Warranty shall not limit the City's rights under the Milestone Completion and City Engineer acceptance paragraphs of this Contract with respect to latent defects, gross mistakes, or fraud.

L. Contractor must repair or replace all defective Work, together with any other Work affected by the repair or replacement during said Guarantee period without expense whatsoever to City.

M. The aforesaid one-year Warranty/Guarantee period does not in any way limit or waive City's rights to legal recourse for latent construction defects, pursuant to California Civil Code of Procedure §337.15 nor for patent construction defects pursuant to §337.1.

N. Approximately fifteen (15) Days before completion of the entire Work of the Project, Contractor must meet with City regarding Warranty/Guarantee requirements. City will establish communication procedures for notifying Contractor of Warranty defects, priorities regarding the type of defect, time required for Contractor response, and other details deemed necessary by City for execution of the Warranty/Guarantee.

O. If the Contractor fails to remedy any failure, defect, or damage, within five (5) calendar days of City's notice, or commence to remedy and proceed with due diligence when the repair cannot be completed within five (5) days, the City may replace, repair or otherwise remedy the failure, defect or damage at the Contractor's expense.

****END ARTICLE 15****

ARTICLE 16 - MISCELLANEOUS PROVISIONS

16.01 CONTRACTOR'S USE OF COMPUTER SOFTWARE

A. Contractor certifies that it has appropriate systems and controls in place to ensure that City funds will not be used in the performance of this Contract for the acquisition, operation or maintenance of computer software in violation of copyright laws.

16.02 RIGHTS IN LAND AND IMPROVEMENTS

A. Nothing in the Contract shall be construed as allowing Contractor to make any arrangements with any person to permit occupancy or use of any land, structure, or building within the physical limits of the Project for any purpose whatsoever, either with or without compensation, nor act in conflict with any agreement between City and any owner, former owner, or tenant of such land, structure, or building.

B. Contractor must not occupy City's property outside the Project limits as shown on the Plans or on maps available in City's offices, unless Contractor enters into a written agreement with City.

****END ARTICLE 16****

****END OF SECTION 00700****

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SECTION 00800

SUPPLEMENTARY GENERAL CONDITIONS

1.0 DELAYS

1.1 Damages for Delays Allowed for Completion

In accordance with the provisions of Section 00700-8.02, Contract Time, the following substantial completion and final completion contract times shall be completed within the number of consecutive calendar days from the date established in the Notice to Proceed for the commencement of Contract Time:

Contractual Completion Event	Completion Time (# of calendar days from Notice to Proceed date)
Substantial Completion	120 Days
Final Completion	140 Days

1.2 Damages for Delays

In accordance with the provisions of Section 00700-6.5, **Liquidated Damages**, for the period of time that any portion of the Work remains unfinished after the time fixed for an interim milestone and/or Substantial Completion in Section 00800-1.1, **Time Allowed for Completion**, as modified by extensions of time granted by the Owner, it is understood and agreed by the Contractor and the Owner that the Contractor shall pay the Owner the damages listed below.

Contractual Completion Event	Daily Liquidated Damages
Substantial Completion	N/A
Final Completion	$3,600

In accordance with the provisions of Section 00700-8.03.C.1.b, **Weather Delays**, an allowance of **three (3)** working days of weather caused delay have been included in the time allowed for completion. This allowance represents a reasonable assessment of anticipated lost working days based on historical weather patterns. These weather days shall be included in the Contractor's schedule as specified in Section 01324-1.09, **WEATHER CONDITIONS AND WEATHER DAY ALLOWANCE.**

2.0 OTHER DAMAGES

2.1 Public Hardship or Negative Impact

A. Work Hours

Maintaining or running equipment outside the permitted hours.

First occurrence	Warning
Second occurrence	$ 500
Third and subsequent occurrences	$1,000

B. Site Cleanliness

Failure to maintain the cleanliness of the construction site.

First Occurrence	Warning
Second Occurrence	$ 500
Third and subsequent Occurrences	$1,000

C. Maintenance of Temporary Pavement:

Failure to maintain temporary paving as required by the affected pavement owner.

First Occurrence	Warning
Second Occurrence	$ 500
Third and Subsequent Occurrences	$1,000

D. Right-of-Way Restrictions:

Failure to comply with right-of-way restrictions (see Section 01734).

First Occurrence	Warning
Second Occurrence	$ 500
Third and Subsequent Occurrences	$1,000

E. Tree Protection:

Failure to comply with all tree and root protection requirements (see Section 01560-1.19).

First Occurrence	Warning
Second Occurrence	$ 1,000
Third and Subsequent Occurrences	$ 2,000

END OF SECTION

SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Identification and summary description of the Project, the Work, location, products furnished by OWNER, activities by others, coordination, and early occupancy by OWNER.
   1. Owner will provides some equipment and services for this project as noted In Section 1.04, Section 11010, and as indicate don the drawings. Contractor shall provide all other labor and services.

1.02 THE PROJECT WORK

A. The Project consists of the installation of Owner supplied Septage Receiving Station equipment, including the construction of concrete pad, roadways, drain/sewer pipelines, manholes, electrical service, other equipment, and associated miscellaneous improvements as **indicated on the Drawings** and as detailed elsewhere in the Contract Documents.

B. Except as Specifically Noted Otherwise, Provide and Pay For:
   1. Insurance and bonds.
   2. Labor, materials, and equipment.
   3. Tools, equipment, and machinery required for construction.
   4. Utilities required for construction.
   5. Dust control measures.
   6. Other facilities and services necessary for proper execution and completion of the Work.
   7. Any special testing and inspections required.

C. Secure and pay for all required permits including OSHA permits, Department of Transportation permits, government fees and licenses.

D. Comply with codes, ordinances, regulations, orders, and other legal requirements of public authorities having bearing on the performance of the Work.

1.03 LOCATION OF PROJECT

A. The Work is located at the City of Yuba City WWTF, 302 Burns Drive, Yuba City, CA 95991

1.04 OWNER FURNISHED EQUIPMENT

A. OWNER will furnish equipment for this project as described in the specifications, indicated on the drawings, and noted below. The Contractor shall provide all other equipment and materials for this project.
   1. Septage Receiving Equipment per Section 11010.

1.05 ACTIVITIES BY OTHERS

A. OWNER, utilities, and others may perform activities within Project area while the Work

is in progress.
1. Schedule the Work with OWNER, utilities, and others to minimize mutual interference.

B. Additional Projects Being Constructed at the Sewage Treatment Plant.
1. Normal Operations of the facility.

C. Cooperate with others to minimize interference and delays.
1. When cooperation fails, submit recommendations and perform Work in coordination with work of others as directed.

D. When the Work depends for proper execution or results upon work performed by others, inspect and promptly report apparent discrepancies or defects in work performed by others.
1. Assume responsibility for work performed by others, except for defects reported as specified in this paragraph and defects which may become apparent in work performed by others after execution of the Work.

E. Access shall be maintained at all times to the treatment plant to allow operations of the plant and access for other contractors.

1.06 COORDINATION OF WORK

A. Maintain overall coordination of the Work.

B. Obtain construction schedules from each subcontractor, and require each subcontractor to maintain schedules and coordinate modifications.

1.07 EARLY OCCUPANCY OF PORTIONS OF WORK

A. No partial acceptance of the Work will be made and no acceptance other than the final acceptance of the completed Work will be made except for those portions of Work designated for early occupancy by OWNER.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01116

PROJECT MANUAL LANGUAGE

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Explanation of arrangement, language, reference standards, and method of resolving conflicts between Contract Documents.

B. Related Documents and Sections:
   1. Subcontract Agreement - General Conditions.
   2. Section 01600 - Product Requirements.

1.02 PROJECT MANUAL ARRANGEMENT

A. Document and Section numbers used in Project Manual, and Project Manual arrangement are in accordance with CSI Document MP-2-1, Masterformat, except where departures have been deemed necessary.

B. Sections are written in CSI Section format in accordance with CSI Document MP-2-2, Three-Part Section Format, except where departures have been deemed necessary.

C. Page format for Sections in the Project Manual is in accordance with CSI Document MP-2-3, Page Format, except where departures have been deemed necessary.

1.03 PROJECT MANUAL LANGUAGE

A. Specification Section Paragraphs entitled "Section Includes" summarizes briefly what is generally included in sections in which they occur. Requirements of Contract Documents are not limited by "Section Includes" paragraphs.

B. Specifications have been partially streamlined by intentionally omitting words and phrases, such as "the CONTRACTOR shall," "in conformity therewith," "shall be" following "as indicated," "a," "an," "the" and "all". Assume missing portions by inference.

C. Phrase "by ENGINEER" modifies words such as "accepted," "directed," "selected," "inspected" and "permitted," when they are unmodified.

D. Phrase "to ENGINEER" modifies words such as "submit," "report," and "satisfactory," when they are unmodified.

E. Colons (:) are used to introduce a list of particulars, an appositive, an amplification, or an illustrative quotation.
   1. When used as an appositive after designation of product, colons are used in place of words "shall be."

F. Word "provide" means to manufacture, fabricate, deliver, furnish, install, complete, assemble, erect in place, test, render ready for use or operation, including necessary related material, labor, appurtenances, services, and incidentals.

G. Words "CONTRACTOR shall" are implied when direction is stated in imperative mood.

H. Term "products" includes materials and equipment as specified in Section 01600.

1.04 REFERENCE STANDARDS

A. Use edition or amendment of referenced standards in effect on date stipulated.

B. Use only applicable portions of referenced standards, ignoring payment stipulations and other provisions which change the duties of the ENGINEER or OWNER Subcontract Agreement - General Conditions.

C. Equate terms relating to designer to "ENGINEER."

D. Notify ENGINEER when referenced standard, code, or specification conflicts with Contract Documents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Requirements for sequencing and scheduling the Work affected by existing site and facility, work restrictions and coordination between construction operations and plant operations.

B. Related Sections:
   1. Section 01352 - Alteration Project Procedures.

1.02 GENERAL CONSTRAINTS ON SEQUENCE AND SCHEDULING OF WORK

A. Wastewater Projects:
   1. The Yuba City Wastewater Treatment Facility is the communities only means of treating domestic and commercial wastewater prior to discharging. Impairing the operational capabilities of this treatment plant will result in serious environmental damage and monetary fines.
   2. Conduct work in a manner that will not impair the operational capabilities of essential elements of the treatment process or reduce the capacity of the entire treatment plant below levels sufficient to treat the quantity of raw wastewater to the water quality limitations specified in the discharge permit.

B. Work inside the fence/WWTP:
   1. All work inside the fence for the WWTP shall conform to project plans, specifications, and typical details.

C. Work outside the fence/in public right of way:
   1. All work in the public right of way shall conform with City standards and typical details.

1.03 INTERRUPTION OF TREATMENT PROCESSES

A. Execute the Work while the existing facility is in operation as specified in Section 01352.

B. Indicate required shutdowns of existing facilities or interruptions of existing operations on Progress Schedule. Shutdowns will be permitted to the extent that existing operation of the plant will not be jeopardized and identified constraints are satisfied. Contractor shall submit the project shutdown form for approval prior to making any project shutdowns.

C. Submit notification in writing, of required shutdowns of existing facilities at least 7 days prior to the planned date of shutdown.

D. Following receipt of a notice of required shutdown, the ENGINEER will notify the CONTRACTOR within 3 working days whether the requested date and time will be permitted. Evaluation of the request will be based on the plant's ability to reliably meet capacity demands.

E. Do not begin alterations until ENGINEER's written permission has been received.

F. Minimize shutdown times by thorough advanced planning. Have required equipment, materials, and labor on hand at time of shutdown.

G. Where required to minimize treatment process interruptions while complying with specified sequencing constraints, provide temporary pumping, power, lighting, controls, instrumentation, and safety devices.

H. Where possible, sequence tie-ins and modifications to allow multiple items of work during a single shutdown.

1.04 WORK SEQUENCE AND CONSTRAINTS

A. Utilize description of critical events and work constraints in this Section as a guideline for scheduling and undertaking the Work.

B. Work sequence and constraints presented do not include all items affecting completion of the Work, but are intended to describe critical events necessary to minimize disruption of the existing facilities and to ensure compliance with waste discharge permit requirements.

C. The following phasing plan is conceptual in nature and is intended as a basis for the Contractors work and to minimize interruptions to the plant operations. Any proposed modifications to the following phasing plan shall be submitted to the Owner and Engineer for consideration and/or approval prior to commencing work. All items remain the Contractors responsibility unless specifically noted otherwise.

The following

1. Perform all potholing and locate all utilities affecting the work.
2. Order all long lead time equipment. Note there are several specialty piping items that have long lead times that must be ordered early.
3. Apply for and obtain encroachment permit for Burns Drive. Cost paid by Contractor.
4. Submit and get approval from the City for the Traffic Control Plan for Burns Drive. Cost paid for by Contractor.
5. Apply for and obtain Project SWPPP. Cost paid for by Contractor.
6. Perform special survey per Section 01722.

Phase 1 - Construction

7. Perform clearing and grubbing and rough grading of site at Septage receiving station.
8. Once traffic control plan is approved, install Septage Receiving Station drain line into sewer manhole in Burns drive.
9. Make repairs to Burns Drive.
10. Install electrical duct bank from connection location and other underground utilities.
11. Install concrete work and drains
12. Install Owner supplied equipment.
13. Make all electrical and utility connections to Owner supplied equipment.
14. Perform all fine grading.
15. Install project asphalt.
16. Start up and test Owner supplied equipment.

D. Perform all remaining work for the project.

E. Perform operating training and other project closeout items.

F. Coordinate electrical and process shutdowns with the treatment plant operations group as required.

G. The contractor shall coordinate all work with the existing plant operation staff.

1.05 PLANT WORK CONSTRAINTS

A. Deliveries of materials and equipment. No deliveries can be made to the plant after 3 pm. The contractor shall unload all equipment and material deliveries. Plant staff will not accept deliveries on behalf of the contractor.

B. The plant entrance road and driveway access through the plant shall be maintained at all times.

C. Vehicle access to the facilities shall be maintained at all times.

D. The Job Superintendent shall submit a daily sheet listing all people working on the project that day at the beginning of the day at the Administration Building. At a minimum the sheet shall have the employee name, company, job, supervisor name and number.

E. Staff hours for the treatment plant are 7am to 3:30 pm, Monday Through Friday.

F. Contractors hours of work will be set during the first project meeting.

1.06 OPERATIONS AND MAINTENANCE ACCESS

A. Provide safe, continuous access to process control equipment for plant operations personnel.

1.07 SHUTDOWN CONSTRAINTS

A. Shutdowns for tie-ins shall be limited to 2 hours and properly coordinated with the plant staff.

1.08 UTILITIES

A. Maintain electrical, telephone, water, gas, sanitary facilities, and other utilities within existing facilities in service. Provide temporary utilities when necessary.

B. Provide advance notice to and utilize services of Underground Services Alert (U.S.A.) for location and marking of underground utilities operated by utility agencies other than the OWNER.

PART 2 PRODUCTS

Not Used

PART 3 PART 3 EXECUTION

3.01 COORDINATION OF WORK

A. Maintain Overall Coordination of Execution of Work.

B. Obtain schedules from subcontractors and suppliers and assume responsibility for correctness.

C. Incorporate schedules from subcontractors and suppliers into Progress Schedule to plan for and comply with sequencing constraints.

3.02 WORK BY OTHERS

A. Where proper execution of the Work depends upon work by others, inspect and promptly report discrepancies and defects.

3.03 GENERAL REQUIREMENTS FOR EXECUTION OF WORK

A. Locate temporary facilities in a manner that minimizes interference to OWNER's operation and maintenance personnel.

B. Unless otherwise specified, install temporary pipelines of the same size as its connection to the existing facility at the downstream end of the pipeline.

C. Provide piping of suitable material for the material being conveyed.

D. Provide submittals on proposed temporary electrical and instrumentation components necessary to maintain existing facilities.

E. Dewater and promptly clean basins and channels temporarily removed from service.

F. Dimensions for all existing structures, piping, paving, and other nonstructural items are approximate. The CONTRACTOR shall field verify all dimensions and conditions and report any discrepancies to the ENGINEER a minimum of 14 days in advance of any construction in the area.

G. Discrepancies between coordinates, bearings and lengths, and stationing shall be resolved in the following order of precedence:

1. Coordinates.
2. Bearings and lengths.
3. Stationing.

PROJECT SHUTDOWN FORM
(Submit project Shutdown form 5 working days prior to the shutdown date)

Equipment or process to be shutdown: _____

Purpose of planned shutdown: _____

Beginning and end date and or time of shutdown:_____

What is the backup plan if equipment cannot be returned to service as scheduled? _____

_____

_____

Are appropriate emergency response plans in place? _____

District Use Only

Approved: ☐ Yes ☐ No

Date: _____

Comments:

_____

_____

_

Approved By: _____
Signature.

END OF SECTION

SECTION 01324

PROGRESS SCHEDULES AND REPORTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Preparation, submittal, and maintenance of computerized progress schedule and reports, contract time adjustments, and payment requests.

1.02 RESPONSIBLE PERSON

A. Designate, in writing and within 5 days after Notice of Award, person responsible for preparation of schedule.

B. Qualifications of Responsible Person:
   1. Authority to act on behalf of CONTRACTOR.
   2. Experienced in preparation of complex construction schedules of similar value.
   3. Knowledge of scheduling.

1.03 PREPARATION

A. Preparation and submittal of the Progress Schedule represents CONTRACTOR's intention to execute the Work within specified time and constraints.

B. CONTRACTOR's bid covers the costs associated with the execution of the Work in accordance with the Progress Schedule.

C. During preparation of the Progress Schedule, ENGINEER will facilitate CONTRACTOR's efforts by being available to answer questions regarding sequencing issues, scheduling constraints, interface points, and dependency relationships.

D. Prepare schedule utilizing precedence diagramming method.

E. Prepare schedule utilizing activity durations in terms of working days. Do not exceed 15 day duration on activities except concrete curing, submittal review and equipment deliveries. Where duration of continuous work exceeds 15 working days, subdivide activities by location, stationing, or other sub-element of the Work.

F. Failure to include an activity required for execution of the Work does not excuse CONTRACTOR from completing the Work and portions thereof within specified times and at price specified in Agreement.

G. Reference schedule to calendar days with beginning of contract time as Day "1."

1.04 SUBMITTAL OF PROGRESS SCHEDULE

A. Submit preliminary and complete Progress Schedule.

B. Submit the Following Items:
   1. 3 prints of each sheet.
   2. 3 Computer Printouts as Follows (if computer program used for scheduling):

a. List of activity descriptions and numbers.
b. List of all activities sorted numerically identifying predecessor/successor information.
c. List of all activities sorted numerically identifying duration, early start, late start, early finish, late finish, and total float.
d. List of all activities sorted by total float identifying duration, early start, late start, early finish, and late finish.

3. 3 prints of Summary Schedule.

1.05 GRAPHICAL OUTPUT

A. Produce a clear, legible, and accurate calendar based, graphical network diagram. Group activities related to the same physical areas of the Work. Draw the network diagram based upon the early start of all activities.

B. Include for each activity, the description, activity number, estimated duration in working days, free float and all activity relationship lines.

C. Illustrate order and interdependence of activities and sequence in which work is planned to be accomplished. Incorporate the basic concept of a network analysis diagram to show how the start of one activity is dependent upon the start or completion of preceding activities and its completion restricts the start of following activities.

D. Indicate the critical path for the project.

E. Delineate the specified contract duration and identify the planned completion of the work as a milestone. The time period between these 2 dates, if any, shall be considered contract float. Contract float is for the mutual benefit of both the OWNER and the CONTRACTOR. Changes to the project that can be accomplished within this available period of float may be made by the OWNER without extending the contract time, by utilizing the float. Likewise, the CONTRACTOR may utilize the float to offset delays other than delays caused by the OWNER. The mutual use of this float shall continue until all available float shown by the Progress Schedule has been utilized by either the OWNER or the CONTRACTOR, or both. At that time, extensions of the contract time will be granted by the OWNER for valid OWNER-caused delays which affect the planned completion date and which have been properly documented and demonstrated by the CONTRACTOR.

F. Identify system shutdown dates, system tie-in dates, specified interim completion dates and contract completion date as milestones.

G. Include, in Addition to Construction Activities:
1. Submission dates and review periods for major equipment submittals, and shoring submittals.
    a. Shoring Reviews: Allow 4 week review period for each shoring submittal.
2. Any activity by the OWNER or the ENGINEER that may affect progress or required completion dates.
3. Equipment delivery.
4. Approvals required by regulatory agencies or other third parties.

H. Produce network diagram on 11 inch by 17 inch sheets with grid coordinate system on the border of all sheets utilizing alpha and numeric designations.

I. Identify the Execution of the following, omitting items not applicable to the Work:

1. Mobilization.
2. Submittal review.
3. Equipment and materials procurement.
4. Concrete, including installation of forms and reinforcement, placement of concrete, curing, stripping, finishing and patching.
5. Equipment, including identification of ordering lead time, factory testing and installation.
6. Piping, fittings and appurtenances, including identification of ordering and fabrication lead time, layout, installation and testing.
7. Valves, gates and operators, including identification of order lead time, installation and testing.
8. Plumbing specialties.
9. Electric transmission, service, and distribution equipment, including identification of ordering lead time, and factory testing.
10. Other electrical work including lighting, heating and cooling, and special systems, including identification of ordering lead time.
11. Instrumentation and controls, including identification of ordering lead time.
12. Preliminary testing of equipment, instrumentation and controls.
13. Final testing, including preparation time.
14. Seven-day operational test.
15. Punch list work.
16. Operation and maintenance training.
17. Demobilization.

1.06 SUMMARY SCHEDULE

A. Provide Summary Schedule which consolidates groups of activities associated with Major Items of Work listed in Schedule of Values. Summary Schedule is intended to give an overall indication of the project schedule without a large amount of detail.

1.07 WEATHER DAYS ALLOWANCE

A. Include as a separate identifiable activity on the critical path, an activity labeled "Weather Days Allowance." Insert this activity at the end of the schedule.

B. Duration of Weather Days Allowance is specified in conditions of the contract.

C. Insert an activity in critical path to reflect weather day occurrences when weather days are experienced and accepted by ENGINEER. Identify this activity as a weather delay.

D. Reduce duration of Weather Days Allowance activity as weather delays are experienced and inserted into the Schedule. Remaining weather days in Weather Day Allowance at completion of project is considered float.

1.08 ACCEPTANCE OF SCHEDULE

A. ENGINEER will review schedule to ascertain compliance with specified project constraints, compliance with milestone dates, reasonableness of durations and sequence, accurate inter-relationships and completeness.

B. ENGINEER and OWNER will issue written comments following completion of preliminary review.

C. Revise and resubmit schedule in accordance with ENGINEER's comments, or request joint meeting to resolve objections.

D. When schedule reflects OWNER's and CONTRACTOR's agreement of project approach and sequence, schedule will be accepted by OWNER as the base schedule. Use accepted schedule for planning, organizing and directing the work and for reporting progress. Provide all items listed in Article 1.05B.

1.09 UPDATING THE SCHEDULE

A. Update the schedule prior to monthly progress meeting. Report significant changes in progress meeting.

B. Submit updated schedule and materials listed in Article 1.05B within 5 days of progress meeting.

C. Progress payment requests may not be processed by ENGINEER if updated schedule has not been submitted or if update is found unacceptable.

D. Prepare update using most recent accepted version of schedule. Include:
1. Actual start date of activities that have been started.
2. Actual finish date of activities that have been completed.
3. Percentage of completion of activities that have been started but not finished.
4. Actual dates on which milestones were achieved.

E. Submit narrative report in conjunction with updated schedule. Describe:
1. Activities added to or deleted from schedule. Identify added activities in manner distinctly different from original activity designations.
2. Changes in sequence or estimated duration of activities.
3. Current or anticipated problems and delays affecting progress, impact of these problems and delays and measures taken to mitigate impact.
4. Assumptions made and activities affected by incorporating change order work into the schedule.

F. Identify overall progress of each Major Item of Work in the Summary Schedule.

1.10 REVISIONS TO SCHEDULE

A. Submit Revised Schedule Within 5 Days:
1. When delay in completion of any activity or group of activities indicates an overrun of the contract time or milestone dates by 20 working days or 5 percent of the remaining duration, whichever is less.
2. When delays in submittals, deliveries, or work stoppages are encountered making necessary the replanning or rescheduling of activities.
3. When the schedule does not represent the actual progress of activities.
4. When any change to the sequence of activities, the completion date for major portions of the work, or when changes occur which affect the critical path.
5. When Contract modification necessitates schedule revision, submit schedule analysis of change order work with cost proposal.

B. Submit revised schedule and materials listed in Article 1.05.

C. Make revisions on most recently accepted version of schedule.

1.11 ADJUSTMENT OF CONTRACT TIME

A. Contract time will be adjusted only for causes specified in Contract Documents.

B. Submit justification, construction schedule data and supporting evidence with each request for contract time adjustment.

C. Submit Proof That the Contract Completion Date Has Been Affected By:
   1. inserting new activities associated with change orders or OWNER - caused delays into the schedule,
   2. revising activity logic, or
   3. revising activity durations.

D. When a delay to the project as a whole can be avoided by revising preferential sequencing, and the CONTRACTOR chooses not to implement the revisions, the CONTRACTOR will be entitled to a time extension and no compensation for extended overhead.

E. Indicate clearly that the CONTRACTOR has used, in full, all the Contract Float available for the work involved in the request, including any float that may exist between the CONTRACTOR's planned completion date and the Contract completion date. Utilize the latest version of the Progress Schedule accepted at the time of the alleged delay, and all other relevant information, to determine the adjustment of the contract time.

F. Contract Float shall be for the mutual benefit of the OWNER and the CONTRACTOR. Adjustment of the Contract Time will be granted only when the Contract Float has been fully utilized and only when the revised date of completion of the Work has been pushed beyond the contract completion date. Adjustment of the Contract Time will be made only for the number of days that the planned completion of the work has been extended.

G. Actual delays in activities which do not affect the critical path work or which do not move the CONTRACTOR's planned completion date beyond the Contract completion date, will not be the basis for an adjustment to the contract time.

H. The CONTRACTOR shall not be entitled to job-site or home office overhead beyond the CONTRACTOR's originally planned occupancy of the site if completion of the project occurs within the specified contract time.

I. When an adjustment of the Contract Time is requested due to OWNER-requested changes to the Project, include, as part of each change order proposal, that portion of the latest version of the accepted Progress Schedule which illustrates logic revisions, duration changes, and other impacts to the Progress Schedule due to the proposed Change Order work in question.

J. Notify ENGINEER for a request for contract time adjustment. Submit request in accordance with paragraph 10.05A of the General Conditions, Claims and Disputes. In cases where the CONTRACTOR does not submit a request for contract time adjustment for a specific change order, delay, or CONTRACTOR request within the specified period of time, then it is mutually agreed that the particular change order, delay, or CONTRACTOR request has no time impact on the Contract completion date and no time extension is required.

K. The ENGINEER will, within 30 days after receipt of a contract time adjustment, request any supporting evidence, review the facts and advise the CONTRACTOR in writing.

L. The new Progress Schedule data, if accepted by the OWNER, shall be included in the next monthly updating of the Schedule.

M. When the OWNER has not yet made a final determination as to the adjustment of the contract time, and the parties are unable to agree as to the amount of the adjustment to be reflected in the Progress Schedule, reflect that amount of time adjustment in the Progress Schedule as the ENGINEER may accept as appropriate for such interim purpose. It is understood and agreed that any such interim acceptance by the ENGINEER shall not be binding and shall be made only for the purpose of continuing to schedule the Work, until such time as a final determination as to any adjustment of the contract time acceptable to the ENGINEER has been made. Revise the Progress Schedule prepared thereafter in accordance with the final decision.

1.12 PAYMENT REQUESTS

A. Prepare progress payment requests on a monthly basis. Base requests on the breakdowns of costs for each scheduled activity and the percentage of completion for each activity.

B. Indicate total dollar amount of work planned for every month of the project. Equate sum of monthly amounts to Lump Sum Contract Price.

C. Generate Progress Payment request forms by downloading cost data from the schedule information to a spreadsheet type format. Identify each activity on the Progress Schedule that has a cost associated with it, the cost for each activity, the estimated percent complete for each activity, and the value of work completed for both the payment period and job to date.

D. Prepare summary of cost information for each Major Item of Work listed in the Schedule of Values. Identify the value of work completed for both the payment period and job to date.

E. Submit progress payment requests at progress meetings.

1.13 WEEKLY ACTIVITIES PLAN

A. Submit to ENGINEER, on the last working day of every week, CONTRACTOR's Plan of Activities for the following 2 weeks.

1.14 SCHEDULE OF VALUES

A. Submit, in conjunction with the Progress Schedule, a Schedule of Values identifying costs of Major Items of Work as generated by the cost loaded schedule. Equate the aggregate of these costs to the Lump Sum Contract Price.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01329

SAFETY PLAN

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Development and maintenance of a Construction Safety Plan.

1.02 CONSTRUCTION SAFETY PLAN

A. Construction Safety Plan shall comply with California OSHA.
B. Detail the Methods and Procedures to Comply with California Labor Code Section 6401.7, Federal, and Local Health and Safety Laws, Rules and Requirements for the Duration of the Contract Time. Include the Following:
   1. Identification of the Certified or Licensed Safety Consultant who will prepare, initiate, maintain and supervise safety programs, and procedures.
   2. Procedures for providing workers with an awareness of safety and health hazards expected to be encountered in the course of construction.
   3. Safety equipment appropriate to the safety and health hazards expected to be encountered during construction. Include warning devices, barricades, safety equipment in public right-of-way and protected areas, and safety equipment used in multi-level structures.
   4. Methods for minimizing employees' exposure to safety and health hazards expected during construction.
   5. Procedures for reporting safety or health hazards.
   6. Procedures to follow to correct a recognized safety and health hazard.
   7. Procedures for investigation of accidents, injuries, illnesses and unusual events that have occurred at the construction site.
   8. Periodic and scheduled inspections of general work areas and specific work stations.
   9. Training for employees and workers at the jobsite.
   10. Methods of communication of safe working conditions, work practices and required personal protection equipment.

C. Assume responsibility for every aspect of Health and Safety on the jobsite, including the health and safety of Subcontractors, suppliers, and other persons on the jobsite.
   1. Forward available information and reports to the Safety Consultant who shall make the necessary recommendations concerning worker health and safety at the jobsite.
   2. Employ additional health and safety measures specified by the Safety Consultant, as necessary, for workers in accordance with OSHA guidelines.

D. Transmit to OWNER and ENGINEER copies of reports and other documents related to accidents or injuries encountered during construction.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Requirements and procedures for submitting Shop Drawings, Product Data, Samples, other submittals relating to products, and as specified in individual sections.

1.02 DEFINITIONS

A. Manufacturer's Instructions: Instructions, stipulations, directions, and recommendations issued in printed form by the manufacturer of a product addressing handling, installation, erection, and application of the product; Manufacturers Instructions are not prepared especially for the Work.

B. Shop Drawings: Drawings, diagrams, schedules, and other data specially prepared for the Work to illustrate some portion of the Work.

C. Product Data: Illustrations, standard schedules, performance charts, brochures, diagrams and other information to illustrate materials or equipment for some portion of the Work.

D. Samples: Physical examples which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

E. Special Samples: Physical examples which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged, and will be incorporated in the Work.

1.03 PROCEDURES

A. Deliver submittals to ENGINEER at address listed on cover of Project Manual, unless another mutually agreeable place is designated.

B. Submit submittals in ample time for each to serve submittals' intended purpose.

C. Submit submittals which are specified or reasonably required for construction, operation, and maintenance of the Work.

D. Deliver submittals under acceptable transmittal form which identifies:
   1. Submittal date.
   2. Project and CONTRACTOR.
   3. Subcontractor and major supplier, when appropriate.
   4. Reference submittal to Contract Documents by Drawing, detail, and/or Specification section numbers, as appropriate.
   5. Variations from Contract Documents when variations are included in submittal.

E. Submit specified number of copies of submittal.

F. Provide or furnish products and execute the Work in accordance with accepted submittals, unless in conflict with Contract Documents.

G. When minor deviations from Contract Documents are accepted, modify Contract Documents in accordance with the Conditions of the Contract.

1.04 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

A. Submit a copy of the engineer’s specification with a check mark next to each paragraph by the vendor for compliance with that portion of the specifications. Any deviations for the project specification shall be clearly called out by the vendor as part of the project submittal.

B. Submit Shop Drawings, Product Data, Samples, and other pertinent information in sufficient detail to show compliance with specified requirements.

C. Check, verify, and revise submittals as necessary to bring them into conformance with Contract Documents and actual field conditions.
   1. Determine and verify quantities, dimensions, specified design and performance criteria, materials, catalog numbers, and similar data.
   2. Coordinate submittal with other submittals and with the requirements of the Contract Documents.

D. After completion of checking, verification, and revising; stamp, sign and date submittals indicating review and approval; and submit to ENGINEER.
   1. Stamp and signature indicates CONTRACTOR has satisfied shop drawing review responsibilities and constitutes CONTRACTOR's written approval of shop drawing.
   2. Shop drawings without CONTRACTOR's written approval will be returned for resubmission.

E. Shop Drawings: Submit 4 hard copies and one electronic PDF copy of all submittal. One electronic copy will be returned with reviewer's comments and stamp. Electronic PDF shall be clear and easily readable including all wiring schematics etc. Any portion of the PDF file that is unreadable will cause rejection of the entire submittal.

F. Product Data and Manufacturer's Instructions: Submit 4 copies and one electronic PDF copy. Excise or cross out non-applicable information and clearly mark applicable information with citations to and terminology consistent with Contract Documents.
   1. 1 electronic copy will be returned with reviewer's comments and stamp.

G. Samples: Submit 2 samples labeled with reference to applicable Contract Documents. Label will be returned with reviewer's selection when appropriate, comments and stamp. Samples will not be returned unless return is requested in writing and additional sample is submitted.

H. Special Samples: Submit 1 sample labeled with reference to applicable Contract Documents. Sample and 1 label will be returned for installation in the Work.

I. Assume risk of expense and delays when proceeding with work related to required submittals without review and acceptance.

1.05 SHOP DRAWINGS FOR OWNER SUPPLIED EQUIPMENT

A. Owner will provide a copy of all shop drawings for Owner supplied equipment. Contractor shall coordinate all construction activities with Owner supplied shop drawings.

1.06 MANUFACTURER'S INSTRUCTIONS

A. Submit manufacturer's instructions whenever made available by manufacturers and when installation, erection, or application in accordance with manufacturer's instructions are required by the Specifications.

B. Submit manufacturer's instructions prior to installation, erection, or application of equipment and other project components.

C. Submit manufacturer's instructions in accordance with requirements for Product Data.

1.07 ENGINEER'S REVIEW

A. ENGINEER's review of submittals shall not release CONTRACTOR from CONTRACTOR's responsibility for performance of requirements of Contract Documents. Neither shall ENGINEER's review release CONTRACTOR from fulfilling purpose of installation nor from CONTRACTOR's liability to replace defective work.

B. Do not consider submittals as Contract Documents. Purpose of submittals is to demonstrate how CONTRACTOR intends to conform with the design concepts.

C. ENGINEER's review of shop drawings, samples, or test procedures will be only for conformance with design concepts and for compliance with information given in Contract Documents.
   1. ENGINEER's review does not extend to:
      a. Accuracy of dimensions, quantities, or performance of equipment and systems designed by CONTRACTOR.
      b. CONTRACTOR's means, methods, techniques, sequences, or procedures except when specified, indicated on the Drawings, or required by Contract Documents.
      c. Safety precautions or programs related to safety which shall remain the sole responsibility of the CONTRACTOR.

D. Except as may be provided in subsequent specifications, a submittal will be returned within 7 days as either “ACCEPTED” or “NOT ACCEPTED” with appropriate comments if required.
   1. When a submittal cannot be returned within that period, ENGINEER will, within a reasonable time after receipt of the submittal, give notice of the date by which that submittal will be returned.

E. Not accepted submittals returned as "CORRECT AND RESUBMIT" contain specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals. Rejected submittals contain remarks relative to further submittal.

F. ENGINEER will be entitled to rely upon the accuracy or completeness of designs, calculations, or certifications made by licensed professionals accompanying a particular submittal whether or not a stamp or seal is required by Contract Documents or Laws and Regulations.

G. Costs incurred by OWNER as a result of additional reviews of a particular submittal after the second time it has been reviewed shall be borne by CONTRACTOR. Reimbursement to OWNER will be made by deducting such costs from CONTRACTOR's subsequent partial payments.

1.08 MINOR OR INCIDENTAL PRODUCTS AND EQUIPMENT SCHEDULES

A. Shop Drawings of minor or incidental fabricated products will not be required, unless requested.

B. Submit tabulated lists of minor or incidental products showing the names of the manufacturers and catalog numbers, with Product Data and Samples as required to determine acceptability.

1.09 SUBMITTALS FOR INFORMATION OR RECORD ONLY

A. Submit 4 hard copies and one Electronic PDF copy of each. None will be returned.

1.10 MILL TEST REPORTS

A. Submit 4 certified copies of factory and mill test reports and one electronic PDF copy for record only. No copies will be returned.

B. Do not incorporate Products in the Work which have not passed testing and inspection satisfactorily.

1.11 REINFORCING STEEL

A. Submit reinforcing steel fabrication and setting drawings for information or record only including one electronic PDF Copy. No copies will be returned.

B. Note deviations and variations as specified for Shop Drawings.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01350

SPECIAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Special procedures for locating and verifying concealed existing facilities.

1.02 CONCEALED AND EXISTING FACILITIES

A. Verify locations of utilities and facilities which may exist by consulting with OWNER, utility companies, and Underground Services Alert (USA) or other service available in area of Project.
   1. Pothole as needed to identify location of all underground facilities.
   2. Abide by easement and right-of-way restrictions.

B. Notify OWNERS' of facilities when the Work will be in progress. Make arrangements for potential emergency repairs in accordance with requirements of OWNERS' of facilities, including individual or residential facilities.

C. Assume responsibility for repair of facilities damaged by performance of the Work.

D. Work required for raising, lowering, or relocating utilities not indicated will be performed by affected utility owners or as part of the Work at option of affected owners of utilities.
   1. When part of the Work, perform work in accordance with standards of affected utility owner, and adjustment to Contract Price and Contract Times will be made as stipulated in conditions of contract.

E. Prior to construction of the new sewer or manhole tie-in, field verify existing utilities on the path of the new 8"" sewer line to the new manhole in Burns Drive including
   1. Storm Drain elevations,
   2. Waterline elevations.
   3. Sewer invert elevations in Burns Drive

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01352

ALTERATION PROJECT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Requirements and procedures for performing alterations to existing facilities.

B. Related Sections:
1. Section 01140 - Work Restrictions.
2. Section 01732 - Cutting and Patching.
3. Section 01500 - Temporary Facilities and Controls.
4. Section 01770 - Closeout Procedures.

1.02 SUBMITTALS

A. Alterations Schedule: Submit in accordance with requirements for Progress Schedules.

1.03 SEQUENCE AND SCHEDULES

A. Perform Work in sequences and within times specified in Section 01140.

B. Submit Separate Detailed Sub-schedule for Alterations, Coordinated with Construction Schedules. Indicate:
1. Each stage of Work and dates of occupancy of areas.
2. Date of Substantial Completion for each area of alterations as appropriate.
3. Trades and Subcontractors employed in each stage.

1.04 WORK INVOLVED WITH EXISTING FACILITIES

A. Perform the Work while existing facility is in operation.

B. Do not jeopardize operation or materially reduce efficiency of existing facility.

C. Coordinate the Work with operation of the facility.
1. Do not begin alterations of designated portions of the Work until specific permission has been granted in writing by OWNER in each case.
2. ENGINEER will coordinate the planned procedure with facility manager.
3. Complete as quickly as possible and with as little delay as possible, connections to existing equipment and utilities, and other operations that interfere with the operation of existing facility.

D. Operational functions of the facility that are required to be performed to facilitate the Work will be performed by facility personnel only.

E. Plant Superintendent will cooperate in every way practicable to assist in expediting the Work.

F. When necessary for the proper operation or maintenance of portions of the facility, reschedule Work operations so that the Work will not conflict with necessary operations

or maintenance of the facility.

1.05 ALTERATIONS, CUTTING, AND PROTECTION

A. Assign relocation, removal, cutting, and patching to trades qualified to perform in manner which causes least damage and provide means of returning surfaces to appearance of new construction.

B. Provide weather protection, waterproofing, heat and humidity control as needed to prevent damage to remaining existing and new construction.

C. Provide temporary enclosures as specified in Section 01500 to separate construction areas from existing building and from areas occupied by OWNER, and to provide weather protection.

PART 2 PRODUCTS

2.01 SALVAGE MATERIALS

A. Salvage Materials: Materials removed from existing facility.

B. Materials Designated for Salvage or relocation and reuse:
   1. The following items shall be salvaged and returned to the Owner. The Contactor shall dispose of all other demolished or damaged materials.
      a. <u>None</u>

C. Handling and Storage:
   1. Prevent damage to salvaged materials during removal, handling, and transportation of salvaged materials.
   2. Relocate Salvaged Materials as Directed by the Owner to the onsite storage location.
   3. Prepare Salvaged Materials for long term storage in an outdoor covered location. Follow manufacturer's O&M recommendations for long term storage.
   4. Store Salvaged Materials as Directed by the Owner:

D. Pay costs associated with salvaging materials, including handling, transporting, and storage.

PART 3 EXECUTION

3.01 PREPARATION

A. Identify existing materials which shall be patched, extended, or matched.

B. In addition to demolition and Construction specifically indicated on the Drawings, cut, move or remove items as necessary to provide access or to allow alteration and new construction to proceed, including:
   1. Repair or removal of hazardous or unsanitary conditions.
   2. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring.
   3. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted

metals, and deteriorated concrete.
4. Cleaning of surfaces and removal of surface finishes needed to install new construction and finishes.
5. Disposal of items removed and not salvaged.

C. Cut and remove minimum amount of existing construction in manner which avoids damage to adjacent work.

D. Cut finish surfaces such as masonry, tile, plaster, and metals by methods which terminate surfaces in straight line at natural points of division.

E. Perform cutting and patching as specified in Section 01732.

3.02 TRANSITION FROM EXISTING TO NEW WORK

A. When new construction abuts or finishes flush with existing construction, make smooth transitions and match architecture of existing construction.

B. Where partitions are removed, patch floors, walls, and ceilings with finish materials which match existing materials.

C. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls, and ceilings to provide smooth planes without breaks, steps, or bulkheads.

D. Where changes of plane exceed 2 inches, request instructions for making transition.

E. Trim and refinish existing doors as necessary to clear new floors.

F. Match patched construction with adjacent construction in texture and appearance so that patch or transition is invisible at 5 foot distance.

G. When finished surfaces are cut so that smooth transition is impossible, terminate existing surface in neat manner along straight line at natural line of division and provide appropriate trim.

3.03 DAMAGED SURFACES

A. Patch and replace portions of existing finished surfaces which are damaged, lifted and discolored with matching material.

B. Provide adequate support of substrate prior to patching finishes.

C. Refinish patched portion of painted or coated surfaces in manner which produces uniform color and texture to entire surface.

D. When existing surface finish cannot be matched, refinish entire surface to nearest change of plane exceeding 45 degrees.

3.04 CLEANING

A. Perform periodic and final cleaning as specified in Sections 01500 and 01770.

B. Clean OWNER-occupied areas daily.

C. Clean spillage, overspray and heavy collection of dust in OWNER-occupied areas immediately.

D. At completion of each portion of Work, clean area and make surfaces ready for successive portions of Work.

E. At completion of alterations in each area, provide final cleaning and return space to condition suitable for use by OWNER.

END OF SECTION

SECTION 01354

HAZARDOUS MATERIAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Procedures required when encountering hazardous materials at the Work site.

1.02 REFERENCES

A. California Health and Safety Code, Section 25117.

B. United States Code of Federal Regulation (CFR), Title 29 and Title 40.

C. State of California Code of Regulations (CCR), Title 8 and Title 22.

D. Steel Structure Painting Council - PA Guide 3.

E. 29 CFR 1910.1000.

F. 29 CFR 1910.134.

G. Steel Structure Painting Council:
   1. Guide 61 - Guide for Containing Debris Generated During Paint Removal Operations.
   2. Guide 71 - Guide for the Disposal of Lead-Contamination Surface Preparation Debris.

H. State of California Code of Regulations (CCR).

I. Steel Structure Painting Council Guide 61 - Description of Methods and Systems.

1.03 SUBMITTALS

A. Submit laboratory reports, hazardous material removal plans, and certifications.

1.04 HAZARDOUS MATERIALS PROCEDURES

A. Hazardous materials are those defined by California Health and Safety Code, Section 25117.

B. When Hazardous Materials Have Been Found:
   1. Prepare and initiate implementation of plan of action.
   2. Notify immediately OWNER, ENGINEER, and other affected persons.
   3. Notify such agencies as are required to be notified by Laws and Regulations with the times stipulated by such Laws and Regulations.
   4. Designate a Certified Industrial Hygienist to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety.

5. Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with laws and regulations.

C. Follow Procedures for Hazardous Materials in the General Conditions and the Veolia Contract Health and Safety Plan for Collection System Improvements.

D. Forward to ENGINEER, copies of reports, permits, receipts, and other documentation related to remedial work.

E. Assume responsibility for worker health and safety, including health and safety of Subcontractors and their workers.
   1. Instruct workers on recognition and reporting of materials that may be hazardous.

F. File requests for adjustments to Contract Times and Contract Price due to the finding of Hazardous Materials in the Work site in accordance with, General Conditions.
   1. Minimize delays by continuing performance of the Work in areas not affected by hazardous materials operations.

1.05 ASBESTOS MATERIALS

A. It is the specific intent of these Contract Documents to exclude from the Work any and all products or materials containing asbestos. No products containing asbestos shall be incorporated in the Work.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01424

ABBREVIATIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Abbreviations and meanings.

1.02 INTERPRETATIONS

A. Interpret abbreviations by context in which abbreviations are used.

1.03 ABBREVIATIONS

A. Abbreviations Used to Identify Reference Standards:

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturers Association
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ABC	Associated Air Balance Council
ABPA	Acoustical and Board Products Association
ACI	American Concrete Institute
ACIL	American Council of Independent Laboratories
ADC	Air Diffusion Council
AFBMA	Anti-Friction Bearing Manufacturers' Association, Inc.
AGA	American Gas Association
AGC	Associated General Contractors
AGMA	American Gear Manufacturers' Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
AMG	Arizona Masonry Guild
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
ARI	Air Conditioning and Refrigeration Institute
ASAHC	American Society of Architectural Hardware Consultants
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWSC	American Welding Society Code

AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Institute of America
BSI	Building Stone Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPSC	U.S. Consumer Product Safety Commission
CRA	California Redwood Association
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standards
CSI	Construction Specifications Institute
CTI	Ceramic Tile Institute
DHI	Door and Hardware Institute
EIFS	Exterior Insulation and Finish System
EJCDC	Engineers Joint Contract Documents Committee
FGMA	Flat Glass Marketing Association
FIA	Factory Insurance Association
FM	Factory Mutual
FS	Federal Specifications
FTI	Facing Tile Institute
GA	Gypsum Association
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
MAG	Maricopa Association of Governments
MIA	Marble Institute of America
ML/SFA	Metal Lath/Steel Framing Association
MS	Military Specifications
NAAMM	National Association of Architectural Metal Manufacturers
NAPA	National Asphalt Pavement Association
NBHA	National Builders Hardware Association
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NETA	International Electrical Testing Association
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NIST	National Institute of Standards and Technology
NMWIA	National Mineral Wood Insulation Association
NPCA	National Paint and Coatings Association
NRCA	National Roofing Contractors Association
NTMA	National Terrazzo and Mosaic Association
NWMA	National Woodwork Manufacturer's Association
PCA	Portland Cement Association

PCI	Prestressed Concrete Institute
PDCA	Paint and Decorating Contractors of America
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
PS	Product Standard
RTI	Resilient Tile Institute
SAE	Society of Automotive Engineers
SCPA	Structural Clay Products Association
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
UBC	Uniform Building Code (ICBO)
UL	Underwriters Laboratories, Inc.
USDA	United States Department of Agriculture
VA	Vermiculite Association
WCLA	West Coast Lumberman's Association
WCLIB	West Coast Lumber Inspection Bureau
WPA	Western Pine Association
WPOA	Western Plumbing Officials Association
WRC	Welding Research Council
WSCPA	Western States Clay Products Association
WWPA	Western Wood Products Association

B. Abbreviations Used in Specifications:

a	year or years (metric unit)
A	ampere or amperes
am	ante meridian (before noon)
ac	alternating current
ac-ft	acre-foot or acre-feet
atm	atmosphere
AWG	American Wire Gauge
bbl	barrel or barrels
bd	board
bhp	brake horsepower
bil gal	billion gallons
BOD	biochemical oxygen demand
Btu	British thermal unit or units
Btuh	British thermal units per hour
bu	bushel or bushels
C	degrees Celsius
cal	calorie or calories
cap	capita
cd	candela or candelas

cfm	cubic feet per minute
Ci	curie or curies
cm	centimeter or centimeters
cmu	concrete masonry unit
CO	carbon monoxide
Co.	Company
CO_2	carbon dioxide
COD	chemical oxygen demand
Corp.	Corporation
counts/min	counts per minute
cu	cubic
cu cm	cubic centimeter or centimeters
cu ft	cubic foot or feet
cu ft/day	cubic feet per day
cu ft/hr	cubic feet per hour
cu ft/min	cubic feet per minute
cu ft/sec	cubic feet per second
cu in	cubic inch or inches
cu m	cubic meter or meters
cu yd	cubic yard or yards
d	day (metric units)
day	day (English units)
db	decibels
DB	dry bulb (temperature)
dc	direct current
diam	diameter
DO	dissolved oxygen
DS	dissolved solids
emf	electromotive force
fpm	feet per minute
F	degrees Fahrenheit
ft	feet or foot
fc	foot-candle or foot candles
ft/day	feet per day
ft/hr	feet per hour
ft/min	feet per minute
ft/sec	feet per second
g	gram or grams
G	gravitational force
gal	gallon or gallons
gal/day	gallons per day
gal/min	gallons per minutes
gal/sec	gallons per second
g/L	grams per liter
gpd	gallons per day
gpd/ac	gallons per day per acre
gpd/cap	gallons per day per capita
gpd/sq ft	gallons per day per square foot
gph	gallons per hour
gpm	gallons per minute

gps	gallons per second
h	hour or hours (metric units)
ha	hectare or hectares
hp	high point
hp	horsepower
hp-hr	horsepower-hour or horsepower-hours
hr	hour or hours (English units)
Hz	hertz
ID	inside diameter
ihp	indicated horsepower
Inc.	Incorporated
inch	inch
inches	inches
inches/sec	inches per second
J	joule or joules
JTU	Jackson turbidity unit or units
k	kips
K	kelvin
K	thermal conductivity
kcal	kilocalorie or kilocalories
kcmil	thousand circular mils
kg	kilogram or kilograms
km	kilometer or kilometers
kN	kilonewton or kilonewtons
kPa	kilopascal or kilopascals
ksi	kips per square inch
kV	kilovolt or kilovolts
kVA	kilovolt-ampere or kilovolt-amperes
kW	kilowatt or kilowatts
kWh	kilowatt hour
L	liter or liters
lb/1000 cu ft	pounds per thousand cubic foot
lb/acre-ft	pounds per acre-foot
lb/ac	pounds per acre
lb/cu ft	pounds per cubic foot
lb/day/cu ft	pounds per day per cubic foot
lb/day/acre	pounds per day per acre
lb/sq ft	pounds per square foot
lin	linear, lineal
lin ft	linear foot or feet
lm	lumen or lumens
log	logarithm (common)
ln	logarithm (natural)
lx	lux
m	meter or meters
M	molar (concentration)
mA	milliampere or milliamperes
max	maximum

mCi	millicurie or millicuries
meq	milliequivalent
uF	microfarad or microfarads
MFBM	thousand feet board measure
mg	milligram or milligrams
mgd/ac	million gallons per day per acre
mgd	million gallons per day
mg/L	milligrams per liter
mg/L	parts per million
ug/L	micrograms per liter
um	micrometer or micrometers
mile	mile
mil. gal	million gallons
miles	miles
min	minimum
min	minute or minutes
MLSS	mixed liquor suspended solids
MLVSS	mixed liquor volatile suspended solids
mm	millimeter or millimeters
mol wt	molecular weight
mol	mole
Mpa	megapascal or megapascals
mph	miles per hour
MPN	most probable number
mR	milliroentgen or milliroentgens
Mrad	megarad or megarads
mV	millivolt or millivolts
MW	megawatt or megawatts
N	newton or newtons
N	normal (concentration)
No.	number
Nos	numbers
NRC	noise reduction coefficient
oc	on center
OD	outside diameter
ORP	oxidation-reduction potential
OT	ortho-tolidine
OTA	ortha-tolidine-arsenite
oz	ounce or ounces
oz/sq ft	ounces per square foot
Pa	pascal or pascals
pl	plate or property line
pm	post meridiem (afternoon)
ppb	parts per billion
ppm	parts per million
ppt	parts per thousand
pr	pair
psf/hr	pounds per square foot per hour
psf	pounds per square foot
psi	pounds per square inch
psia	pounds per square inch absolute

psig	pounds per square inch gauge
PVC	polyvinyl chloride
qt	quart or quarts
R	radius
R	roentgen or roentgens
rad	radiation absorbed dose
RH	relative humidity
rpm	revolutions per minute
rps	revolutions per second
s	second (metric units)
S	Siemens (mho)
SDI	sludge density index
sec	second (English units)
SI	International System of Units
sp	static pressure
sp gr	specific gravity
sp ht	specific heat
sq	square
cm^2 or sq cm	square centimeter or centimeters
sq ft	square feet or foot
sq inch	square inch
sq inches	square inches
km^2 or sq km	square kilometer or kilometers
m^2 or sq m	square meter or meters
mm^2 or sq mm	square millimeter or millimeters
sq yd	square yard or yards
SS	suspended solids
STC	Sound Transmission Class
SVI	sludge volume index
TDS	total dissolved solids
TKN	total Kjeldahl nitrogen
TLM	median tolerance limit
TOC	total organic carbon
TOD	total oxygen demand
TOW	top of weir
TS	total solids
TSS	total suspended solids
TVS	total volatile solids
U	U Factor
U	Coefficient of Heat Transfer
U	heat transfer coefficient
UNS	Uniform Numbering System
US	United States
V	volt or volts
VA	volt-ampere or volt-amperes
W	watt or watts
WB	wet bulb

wg	water gauge
wk	week or weeks
wt	weight
yd	yard or yards
yr	year or years (English unit)

C. Abbreviations Used on Drawings: As listed on Drawings or in Specifications.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01428

IDENTIFICATION SYSTEMS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Identification of equipment and components of systems with paint, brands, tags, and signboards.

B. Related Sections:
   1. Section 01600 - Product Requirements.
   2. Section 01770 - Closeout Procedures.
   3. Section 09960 - High Performance Coatings.

1.02 SUBMITTALS

A. Submit Following:
   1. Product Data.
   2. Samples.
   3. Manufacturer's Installation Instructions.
   4. Submit following as specified in Section 01770:
      a. Operation and Maintenance Data.
      b. Warranty.

PART 2 PRODUCTS

2.01 MATERIALS

A. Paint: As specified in Section 09960.

B. Pipe Identification Tags: Aluminum or stainless steel with stamped-in 1/4 inch high identifying lettering.

C. Pipe Identification Tag Chains: Aluminum or stainless steel.

D. Snap-on Markers: One of following with 3/4 inch high letters for 3/4 to 4 inch pipe or covering, or 5 inch high letters for 5 inch or larger pipe or cover:
   1. Brady Bradysnap-On B-915.
   2. Seton Setmark.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for installation and application of products as specified in Section 01600.

3.02 PREPARATION AND PAINT APPLICATION

A. Prepare and paint surfaces as specified in Section 09960.

END OF SECTION

SECTION 01450

QUALITY CONTROL

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Quality control requirements and procedures for products and workmanship; sampling and testing of materials; testing of equipment; requirements for testing laboratories; procedures and limitations of inspection; and related matters.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. E 329 - Standard for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

1.03 PRODUCTS AND WORKMANSHIP

A. Perform and complete work in thorough manner.
   1. Call ENGINEER's attention to apparent errors, conflicts, discrepancies, or omissions in Contract Documents and request instructions before proceeding with the Work.
   2. ENGINEER will issue written clarification or interpretation of requirements of the Contract Documents.

B. When specified, products will be tested and inspected either at point of origin or at Work site.
   1. Notify ENGINEER in writing well in advance of when products will be ready for testing and inspection at point of origin.
   2. Do not construe that satisfactory tests and inspections at point of origin is final acceptance of products. Satisfactory tests or inspections at point of origin do not preclude retesting or reinspection at Work site.

C. Do not ship products which require testing and inspection at point of origin prior to testing and inspection.

1.04 AUTHORITY AND DUTIES OF OWNER'S REPRESENTATIVE OR INSPECTOR

A. OWNER's Representative or Inspector employed or retained by OWNER or ENGINEER is authorized to inspect the Work.

B. Inspections may extend to entire or part of the Work and to preparation, fabrication, and manufacture of products for the Work.

C. Deficiencies or defects in the Work which have been observed will be called to CONTRACTOR's attention.

D. Inspector Will Not:
   1. Alter or waive provisions of Contract Documents.
   2. Inspect CONTRACTOR's means, methods, techniques, sequences, or procedures for construction.

3. Accept portions of the Work, issue instructions contrary to intent of Contract Documents, or act as foreman for CONTRACTOR.
4. Supervise, control, or direct CONTRACTOR's safety precautions or programs; or inspect for safety conditions on Work site, or of persons thereon, whether CONTRACTOR's employees or others.

E. Inspector Will:
1. Conduct on-site observations of the Work in progress to assist ENGINEER in determining when the Work is, in general, proceeding in accordance with Contract Documents.
2. Report to ENGINEER whenever Inspector believes that Work is faulty, defective, does not conform to Contract Documents, or has been damaged; or whenever there is defective material or equipment; or whenever Inspector believes the Work should be uncovered for observation or requires special testing.

1.05 INSPECTION

A. Material and equipment, and workmanship shall be subject to inspection and rejection when not in conformance with Contract Documents.

B. Remove defective work and products from Work site, whether in place or not, and replace or renew with work, material or equipment in conformance with Contract Documents.

C. Questions concerning acceptability of materials, classification of materials, and execution of the Work will be decided by ENGINEER.

D. Facilitate inspection by maintaining proper facilities and providing safe access to the Work, to shops where products are in preparation, and to warehouses and storage yards where products are stored.

E. ENGINEER's Observation of Work That Will Be Covered Up:
1. When directed to allow observation of work before it is covered up, provide timely notification of work readiness and allow ENGINEER reasonable time to observe such work before covering it up.
2. Uncover, at CONTRACTOR's cost, work covered up for which ENGINEER was not given timely notification or reasonable time to conduct observations.
3. ENGINEER may specify time requirements for timely notification and for performing observations.

1.06 SAMPLING AND TESTING

A. General:
1. Prior to delivery and incorporation in the Work, submit listing of sources of materials, when specified in Sections where materials are specified.
2. When specified in Sections where products are specified,
   a. Submit sufficient quantities of representative samples of character and quality required of materials to be used in the Work for testing or examination.
   b. Test materials in accordance with standards of national technical organizations.

B. Sampling:
1. Furnish specimens of materials when requested.

2. Do not use materials which are required to be tested until testing indicates satisfactory compliance with specified requirements.
3. Specimens of materials will be taken for testing whenever necessary to determine quality of material.
4. Assist ENGINEER in preparation of test specimens at site of Work, such as soil samples and concrete test cylinders.

C. Test Standards:
1. Perform sampling, specimen preparation, and testing of materials in accordance with specified standards, and when no standard is specified, in accordance with standard of nationally recognized technical organization.
2. Physical characteristics of materials not particularly specified shall conform to standards published by ASTM, where applicable.
3. Standards and publication references in Contract Documents shall be edition or revision in effect on date stipulated in Document 00700.

1.07 TESTING LABORATORY SERVICES

A. Qualification of Laboratory:
1. Meets "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.
2. Meets requirements of ASTM E 329.
3. Has authorization to operate in state in which Project is located.
4. Will submit copy of report of inspection of facilities made by Materials Reference Laboratory of NBS during most recent tour of inspection, with memorandum of remedies of deficiencies reported by inspection.
5. Has testing equipment calibrated at reasonable intervals by devices of accuracy traceable to NBS or accepted values of natural physical constants.

B. Laboratory Duties:
1. Cooperate with ENGINEER and CONTRACTOR.
2. Provide qualified personnel.
3. Notify ENGINEER and CONTRACTOR, in writing, of response time needed to schedule testing or inspections after receipt of notice.
4. Perform specified inspections, sampling and testing of materials and methods of construction in accordance with specified standards to ascertain compliance of materials with requirements of Contract Documents.
5. Promptly notify ENGINEER and CONTRACTOR of observed irregularities or deficiencies of construction.
6. Promptly submit written report of each test and inspection; one copy each to ENGINEER, OWNER, CONTRACTOR, and one copy to file of Project Record Documents. Each report shall include:
   a. Date issued.
   b. Project title and number.
   c. Testing laboratory name, address and telephone number.
   d. Name and signature of laboratory inspector.
   e. Date and time of sampling or inspection.
   f. Record of temperature and weather conditions.
   g. Date of test.
   h. Identification of product and Specification section.
   i. Location of sample or test in Project.
   j. Type of inspection or test.
   k. Results of tests and compliance with Contract Documents.
   l. Interpretation of test results, when requested by ENGINEER.

C. Limitations of Authority of Testing Laboratory: Laboratory is not authorized to:
   1. Release, revoke, alter or enlarge on requirements of Contract Documents.
   2. Approve or accept portion of Work.
   3. Perform duties of CONTRACTOR.

1.08 CONTRACTOR'S RESPONSIBILITIES:

A. Cooperate with laboratory personnel and provide access to construction and manufacturing operations.

B. Secure and deliver to laboratory adequate quantities of representative samples of materials proposed to be used and which require testing.

C. Provide to laboratory preliminary mix design proposed to be used for concrete, and other materials mixes which require control by testing laboratory.

D. Furnish copies of product test reports.

E. Furnish Incidental Labor and Facilities:
   1. To provide access to construction to be tested.
   2. To obtain and handle samples at Work site or at source of product to be tested.
   3. To facilitate inspections and tests.
   4. For storage and curing of test samples.

F. Notify laboratory in advance of when observations, inspections and testing is needed for laboratory to schedule and perform in accordance with their notice of response time.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Furnishing, maintaining, and removing construction facilities and temporary controls, including temporary utilities, construction aids, barriers and enclosures, security, access roads, temporary controls, project sign, field offices and sheds, and removal after construction.

B. Related Sections:
   1. Section 01140 - Work Restrictions: Utilities.
   2. Requirements are of concern to OWNER and are representative of construction facilities and controls which are solely CONTRACTOR's responsibility.
   3. No attempt is made to set out in detail means or methods necessary to satisfy requirements.
      a. Recognition of requirements is made to assist CONTRACTOR in the identification of necessary costs.

1.02 TEMPORARY UTILITIES

A. Temporary Electrical Power:
   1. Contractor shall provide portable generators as needed for temporary power to equipment to accommodate phasing of construction. Contractor shall pay all fuel costs. Where available and where it can be accommodated without impact plant operations, it is acceptable to provide temporary power connections from alternate source power locations at the facility. Owner must approve all temporary power connections to existing facilities. In this instance only, Owner shall pay power costs for temporary power.
   2. Provide and maintain adequate jobsite power distribution facilities conforming to applicable Laws and Regulations.

B. Temporary Electrical Lighting:
   1. In work areas, provide temporary lighting sufficient to maintain lighting levels during working hours not less than lighting levels required by OSHA and state agency which administers OSHA regulations where Project is located.
   2. When available, permanent lighting facilities may be used in lieu of temporary facilities.
      a. Prior to Substantial Completion of the Work, replace bulbs, lamps, or tubes used by CONTRACTOR for lighting.

C. Temporary Heating, Cooling, and Ventilating:
   1. Heat and ventilate work areas to protect the Work from damage by freezing, high temperatures, weather, and to provide safe environment for workers.
   2. Permanent heating system may be utilized when sufficiently completed to allow safe operation.

D. Temporary Water:
   1. OWNER will pay for construction water. CONTRACTOR shall be responsible for cost of constructing facilities necessary for transporting construction water and for

actual transportation costs from nearby location within to project site. CONTRACTOR shall be responsible for paying for and constructing facilities necessary to furnish potable water for human consumption.

2. Remove temporary piping and connections and restore affected portions of the facility to original condition before Substantial Completion.
3. Development of Non-potable Water Supply:
    a. Non-potable water is available from hydrants or hose valves within Plant without cost. When combined demand of the Work and plant exceeds plant supply capacity, CONTRACTOR shall provide additional temporary supply capacity.
    b. Post ample signs throughout the Work area warning that plant water is not potable.

E. Temporary Sanitary Facilities:
1. Provide suitable and adequate sanitary facilities that are in compliance with applicable Laws and Regulations.
2. At completion of the Work, remove sanitary facilities and leave site in neat and sanitary condition.

F. Temporary Fire Protection: Provide sufficient number of fire extinguishers of type and capacity required to protect the Work and ancillary facilities.

G. First Aid: Post first aid facilities and information posters conforming to requirements of OSHA and other applicable Laws and Regulations in readily accessible locations.

H. Utilities in Existing Facilities: See Section 01140 - Work Restrictions.

1.03 CONSTRUCTION AIDS

A. Provide railings, kick plates, enclosures, safety devices, and controls required by Laws and Regulations and as required for adequate protection of life and property.

B. Use construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities of ample size and capacity to adequately support and move loads.

C. Design temporary supports with adequate safety factor to assure adequate load bearing capability.
1. When requested, submit design calculations by professional registered engineer prior to application of loads.
2. Submitted design calculations are for information and record purposes only.

D. Accident Prevention:
1. Exercise precautions throughout construction for protection of persons and property.
2. Observe safety provisions of applicable Laws and Regulations.
3. Guard machinery and equipment, and eliminate other hazards.
4. Make reports required by authorities having jurisdiction, and permit safety inspections of the Work.
5. Before commencing construction Work, take necessary action to comply with provisions for safety and accident prevention.

E. Barricades:
1. Place barriers at ends of excavations and along excavations to warn pedestrian and vehicular traffic of excavations.

2. Provide barriers with flashing lights after dark.
3. Keep barriers in place until excavations are entirely backfilled and compacted.
4. Barricade excavations to prevent persons from entering excavated areas in streets, roadways, parking lots, treatment plants, or other public or private areas.

F. Warning Devices and Barricades: Adequately identify and guard hazardous areas and conditions by visual warning devices and, where necessary, physical barriers.
1. Devices shall conform to minimum requirements of OSHA and State agency which administers OSHA regulations where Project is located.

G. Hazards in Public Right-of-Way:
1. Mark at reasonable intervals, trenches and other continuous excavations in public right-of-way, running parallel to general flow of traffic, with traffic cones, barricades, or other suitable visual markers during daylight hours.
   a. During hours of darkness, provide markers with torches, flashers, or other adequate lights.
2. At intersections or for pits and similar excavations, where traffic may reasonably be expected to approach head on, protect excavations by continuous barricades.
   a. During hours of darkness, provide warning lights at close intervals.

H. Hazards in Protected Areas: Mark or guard excavations in areas from which public is excluded, in manner appropriate for hazard.

I. Above Grade Protection: On multi-level structures, provide safety protection that meets requirements of OSHA and State agency which administers OSHA regulations where Project is located.

J. Protect existing structures, trees, shrubs, and other items to be preserved on Project site from injury, damage or destruction by vehicles, equipment, worker or other agents with substantial barricades or other devices commensurate with hazards.

K. Fences:
1. Provide fencing around CONTRACTOR's lay down area as required to provide secure storage. Note that lay down area may require leveling and or all weather surface preparation depending on CONTRACTOR's needs. All such work shall be performed by and paid for by CONTRACTOR.
2. When entire or part of site is to be permanently fenced, permanent fence may be built to serve for both permanent and temporary protection of the Work site, provided that damaged or defaced fencing is replaced prior to Substantial Completion.
3. Protect temporary and permanent openings and close openings in existing fences to prevent intrusion by unauthorized persons. Bear responsibility for protection of plant and material on site of the work when openings in existing fences are not closed.
4. During night hours, weekends, holidays, and other times when no work is performed at site, provide temporary closures or enlist services of security guards to protect temporary openings.
5. Fence temporary openings when openings are no longer necessary.

1.04 SECURITY

A. Make adequate provision for protection of the Work area against fire, theft, and vandalism, and for protection of public against exposure to injury.

1.05 ACCESS ROADS

A. General:
   1. Build and maintain access roads to and on site of the Work to provide for delivery of material and for access to existing and operating plant facilities on site.
   2. Build and maintain dust free roads which are suitable for travel at 20 miles per hour.

B. Off-site Access Roads:
   1. Build and maintain graded earth roads.
   2. Build roads only in public right-of-way or easements obtained by OWNER.
   3. Obtain rights-of-way or easements when electing to build along other alignment.

C. On-site Access Roads:
   1. Maintain access roads to storage areas and other areas to which frequent access is required.
   2. Maintain similar roads to existing facilities on site of the Work to provide access for maintenance and operation.
   3. Protect buried vulnerable utilities under temporary roads with steel plates, wood planking, or bridges.
   4. Maintain on-site access roads free of mud. Under no circumstances shall vehicles leaving the site track mud off the site onto the public right-of-way.

1.06 TEMPORARY CONTROLS

A. Dust Control:
   1. Prevent dust nuisance caused by operations, unpaved roads, excavation, backfilling, demolition, or other activities.
   2. Control dust by sprinkling with water, use of dust palliatives, modification of operations, or other means acceptable to agencies having jurisdiction.

B. Noise Control:
   1. In inhabited areas, particularly residential, perform operations in manner to minimize noise.
   2. In residential areas, take special measures to suppress noise during night hours.

C. Mud Control:
   1. Prevent mud nuisance caused by construction operations, unpaved roads, excavation, backfilling, demolition, or other activities.

1.07 PROJECT SIGN

A. Provide and maintain Project identification sign consisting of painted 8 foot wide by 4 foot high exterior grade plywood and minimum 10 foot long 4 by 4 lumber posts, set in ground at least 3 feet, with exhibit lettering by professional sign painter using no more than 5 sign colors.
   1. List at least title of Project, and names of OWNER, ENGINEER, and CONTRACTOR.

B. Erect Project identification sign where directed.

1.08 FIELD OFFICES AND SHEDS

A. CONTRACTOR's Field Office/Shed:
The Contractor shall maintain a Project Construction Connex Box. The Box shall have copies of Contract Documents, As-Built Drawings, progress schedule, shop drawings, and other relevant documents with adequate space to examine documents.

B. Project meetings shall be conducted in the District Offices.

C. It is acceptable to use the District Fax to receive faxes at the job site.

D. All Contractor personnel shall park in designated areas for the Contractor and shall sign in and out daily with the District.

1.09 REMOVAL

A. Remove temporary buildings and furnishings before inspection or when directed.

B. Clean and repair damage caused by installation or use of temporary facilities.

C. Remove underground installations to minimum depth of 24 inches and grade to match surrounding conditions.

D. Restore existing facilities used during construction to specified or original condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Product requirements; product selection; products schedule; execution; manufacturer's instructions; and delivery, handling, and storage.

1.02 PRODUCT REQUIREMENTS

A. Comply with Specifications and referenced standards as minimum requirements.

B. Provide products by same manufacturer when products are of similar nature, unless otherwise specified.

C. Provide identical products when products are required in quantity.

D. Provide products with interchangeable parts whenever possible.

E. Require each equipment manufacturer to have maintenance facilities meeting the following requirements:
   1. Minimum 3 years operational experience.
   2. Location in continental United States.
   3. Equipment and tools capable of making repairs.
   4. Staff qualified to make repairs.
   5. Inventory of maintenance spare parts.

1.03 PRODUCT SELECTION

A. When products are specified by standard or specification designations of technical societies, organizations, or associations only, provide products which meet or exceed reference standard and Specifications.

B. When products are specified with names of manufacturers but no model numbers or catalog designations, provide:
   1. Products by one of named manufacturers which meets or exceeds Specifications.
   2. Accepted or-equals.

C. When products are specified with names of manufacturers and model numbers or catalog designations, provide:
   1. Products with model numbers or catalog designations by 1 of named manufacturers.
   2. Accepted or-equals.

D. When products are specified with names of manufacturers, but with brand or trade names, model numbers, or catalog designations by 1 manufacturer only, provide:
   1. Products specified by brand or trade name, model number, or catalog designation.

2. Products by 1 of named manufacturers proven in accordance with requirements for or-equals to meet or exceed quality, appearance and performance of specified brand or trade name, model number, or catalog designation.
3. Accepted or-equals.

E. When Products are specified with only 1 manufacturer followed by "or Equal," provide:
1. Products meeting or exceeding Specifications by specified manufacturer.
2. Accepted or-equals.

1.04 QUALITY ASSURANCE

A. Employ entities that meet or exceed specified qualifications, to execute the Work.

B. Inspect conditions before executing subsequent portions of the Work. Accept responsibility for correcting unsatisfactory conditions upon executing subsequent portions of the Work.

C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.05 DELIVERY, HANDLING, AND STORAGE

A. Prepare Products for Shipment by:
1. Applying grease and lubricating oil to bearings and similar items.
2. Separately packing or otherwise suitably protecting bearings.
3. Tagging or marking products to agree with delivery schedule or Shop Drawings.
4. Including complete packing lists and bills of material with each shipment.
5. Packaging products to facilitate handling and protection against damage during transit, handling and storage.

B. Transport products by methods that avoids product damage. Deliver products in undamaged condition in manufacturer's unopened containers or packaging.

C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

D. Upon delivery, promptly inspect shipments. Verify compliance with Contract Documents, correct quantities and undamaged condition of products. Immediately store and protect products and materials until installed in Work.

E. Store products with seals and legible labels intact.

F. Store moisture sensitive products in weathertight enclosures.

G. Maintain products within temperature and humidity ranges required or recommended by manufacturer.

H. Connect and operate space heaters during storage when ambient temperatures fall below temperatures recommended by manufacturer.

I. Protect painted surfaces against impact, abrasion, discoloration, and other damage. Repaint damaged painted surfaces.

J. Exterior Storage of Fabricated Products:

1. Place on above ground supports which allow for drainage.
2. Cover products subject to deterioration with impervious sheet covering.
3. Provide ventilation to prevent condensation under covering.

K. Store loose granular materials on solid surfaces in well-drained area. Prevent materials mixing with foreign matter.

L. Provide access for inspection.

1.06 MANUFACTURER'S INSTRUCTIONS

A. Deliver, handle, store, install, erect, or apply products in accordance with manufacturer's instructions, Contract Documents and industry standards.

B. Periodically inspect to assure products are undamaged and maintained under required conditions.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01612

SEISMIC DESIGN CRITERIA

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Seismic design criteria for the following:
   1. Seismic anchorage of Non-Structural components shall include all architectural, mechanical, and electrical components, equipment, distribution systems (i.e. piping, conduit, ducting, other), light poles, flag poles, antenna poles, freestanding walls, solid signs, facilities, and all other similar or related appurtenances necessary to produce the complete architectural, mechanical, and electrical systems.
      a. Where the architectural, mechanical or electrical components or equipment has a weight of four hundred pounds (400 lbs) or more. See ASCE 7 section 13.2, 13.3, 13.4 and 13.5Where the mechanical or electrical equipment has a weight of four hundred pounds (400 lbs) or more.
      b. Where the architectural, mechanical or electrical components or equipment has a weight of less than four hundred pounds (400 lbs) and a center of mass located four feet (4'-0") or more above the adjacent floor level See ASCE 7 section 13.2, 13.3, 13.4 and 13.5.
      c. Where architectural, mechanical or electrical equipment has a weight of twenty pounds (20 lbs) or less or, in the case of a distributed system that has a weight of five pounds per feet (5 lbs/ft) or less, seismic anchorage need not be considered. Where multiple distributed systems are supported off of the same system their combined weight must be used in determining if design is required for the support system. See ASCE 7 section 13.2, 13.3, 13.4, 13.5 and 13.6.
   2. In addition to the requirements of 1 above, provide seismic design for support systems, internal connections and packaged components as called for below:
      a. Seismic design of Premanufactured Modular Mechanical and Electrical Systems (i.e. Electrical Switch Boards, Motor Control Centers, Standby Generators and Skid Mounter Systems with an Enclosure), where the Premanufactured Mechanical and Electrical Modules are six feet (6'-0") or taller and that contain or support mechanical and electrical components shall be designed in accordance with ASCE 7-22 Chapter 15 'Nonbuilding Structures Similar to Buildings'. Nonstructural components contained or supported within the modular systems shall be designed in accordance with ASCE 7-22 Chapter 13. Provide design that includes details and calculations signed and sealed by a Civil or Structural engineer registered in the State of California.
      b. If Premanufactured Modular Mechanical and Electrical Systems (i.e. Electrical Switch Boards, Motor Control Centers, Standby Generators and Skid Mounter Systems with an Enclosure) is 'Prequalified' in accordance with ASCE 7-22 Chapter 13 section 13.2.3, it is exempt from the requirements of Section 2.a above. Manufacturer shall provide seismic qualification based on a nationally recognized testing standard procedure, such as ICC-ES AC 156. Seismic qualification by experience data based on nationally recognized procedures is also acceptable. Seismic pre-approval from OSHPD will also satisfy this requirement. Certification must be provided for either listed option.

Certification must show seismic capacities are equal to or exceed the seismic demands that are project specific.

c. If Premanufactured Modular Mechanical and Electrical Systems (i.e. Electrical Switch Boards, Motor Control Centers, Standby Generators and Skid Mounter Systems with an Enclosure) has 'Experience Data' in accordance with ASCE 7-22 Chapter 13 section 13.2.7, it is exempt from the requirements of Section 2.a and 2.b.

d. Section 2 shall not apply to Skid-Mounted Equipment without an enclosure (i.e. pumps), and single large components, such as air handlers, cooling towers, chillers and boilers.

3. When the Contract Documents require the Contractor to design structures or structural components, provide Calculations and Construction Documents (specifications, drawings and details) for those structures and structural components, and their supports, anchorages, and attachments, are required. See ASCE 7-22 Chapter 13 section 13.2.8
4. Calculations shall use the load cases as required by ASCE 7-22 Chapter 13 section 13.2.2, including the factors ρ and Ω where it is required by the load combination.
5. Typical Details may have been provided for supporting mechanical equipment, electrical equipment and distributed systems (i.e. piping, conduit, ducting, other) as well as for stairs ladders and other miscellaneous items in the construction documents. These Typical Details are to be used for a minimum standard for style, size, and materials and shall be used as a guide for the contractor in designing the specific item or system utilized on the project Design for these systems shall be provided in the submittal. The design shall include details and calculations stamped and signed by a Civil or Structural engineer registered in the State of California.
6. Seismic design of tanks and anchorage of tanks.
7. Other structures or items as specified or indicated on the Drawings.

1.02 REFERENCES

A. International Code Council (ICC).

B. California Building Code (CBC).
1. CBC 2025.

C. American Society of Civil Engineers
1. 7-10 Minimum Design Loads for Buildings and Other Structures (ASCE 7-22)

D. American Concrete Institute
1. 318-19 Building Code Requirements for Structural Concrete (ACI 318-19)

1.03 SYSTEM DESCRIPTION

A. Design Requirements for Equipment provided by the Contractor:
1. Design in accordance of the 2025 California Building Code.
   a. Risk Category, IV
   b. Site Class, D
   c. Spectral Acceleration Parameter, Ss:0.62
   d. Spectral Acceleration Parameter, S1: 0.23
   e. Design Spectral Acceleration at short period, S_{DS}: 0.61g

f. Design Spectral Acceleration at 1-Second Period, SD1: 0.40g
g. Seismic response coefficient: Cs shall be calculated in accordance with ASCE 7-22, Section 12.8, Method 2.
h. Long period transition period: TL = 12seconds
i. Response modification coefficient, R: In accordance with ASCE 7, Tables 12.2-1, 12.14-1, 15.4-1 and 15.4-2.
j. Seismic Importance Factor, I:1.25.
k. Component resonance ductility factor, C_{AR}: In accordance with ASCE 7, Tables 13.5-1 and 13.6-1.
l. Component strengthfactor, R_{po}: In accordance with ASCE 7, Tables 13.5-1 and 13.6-1.
m. Factor for force amplification, H_f: In accordance with ASCE 7, Section 13.3.
n. Structural ductility reduction factor Rμ: In accordance with ASCE 7, Section 13.3.
o. Component importance factor, I_p: = 1.5

2. Do not use friction to resist sliding due to seismic forces.
3. Do not use more than 60 percent of the weight of the mechanical and electrical equipment for designing anchors for resisting overturning due to seismic forces.
4. Do not use more than 60 percent of the weight of the tank for resisting overturning due to seismic forces.
5. Use anchor bolts, bolts, or welded studs for anchors for resisting seismic forces. Anchor bolts used to resist seismic forces shall have a standard hex bolt head. Do not use anchor bolts fabricated from rod stock with an L or J shape.
6. Do not use concrete anchors, flush shells, adhesive anchors, powder actuated fasteners, or other types of anchors unless indicated on the Drawings or accepted in writing by the ENGINEER.
7. Where adhesive anchors are allowed, personnel used for installation shall be certified by an applicable certification program per ACI 318-19 section 26.7.1(l).
8. Anchor design capacity is to be independent of reinforcing steel in the concrete providing ductility.
9. Seismic forces must be resisted by direct bearing on the fasteners used to resist seismic forces. Do not use connections which use friction to resist seismic forces.

1.04 SUBMITTALS

A. Shop Drawings and Calculations: Complete shop drawings and seismic calculations.

B. Calculations shall be signed and stamped by a civil or structural Professional. Engineer licensed to practice in the state where the Project is located. All calculations shall be done in English units.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01614

WIND DESIGN CRITERIA

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Wind design criteria for the following:
   1. Design of equipment, light poles, flag poles, antenna poles, freestanding walls, solid signs, tanks, facilities, buildings and all other structures as indicated in ASCE 7. Wind design shall be considered for all cases listed unless equipment is 'housed' in a structure or when it can be demonstrated that Wind design does not govern. The minimum Wind loading for other elements that are not defined in ASCE 7 shall be sixteen pounds per square foot (16 lbs/ft^2) multiplied by its area.
   2. Design of anchorage for the Item 1. Listed above.
   3. Other structures or items as specified or indicated on the Contract Drawings and as required by the 2025 California Building Code.
   4. All design calculation shall be per 2025 CBC Chapter 16 Load Combinations.

1.02 REFERENCES

A. International Code Council (ICC)
B. California Building Code (CBC).
C. American Society of Civil Engineers
   1. 7-16 Minimum Design Loads for Buildings and Other Structures (ASCE 7-22) with supplements 1 through 3.

1.03 SYSTEM DESCRIPTION

A. Design Requirements: Design in accordance with the requirements of the 2019 California Building Code.
   1. Risk Category: IV
   2. Basic Wind Speed (3 second gust):
      a. Ultimate design wind speed, V_{ULT} = 104 mph
   3. Exposure Category: C
   4. Topographic Factor, K_{tz} = shall be in accordance with ASCE 7-22 Standard.
   5. Use anchor bolts, bolts, or welded studs for anchors for resisting wind forces. Anchor bolts used to resist wind forces shall have a standard hex bolt head. Do not use anchor bolts fabricated from rod stock with an L or J shape.
      a. Do not use concrete anchors, flush shells, adhesive anchors, powder actuated fasteners, or other types of anchor unless indicated on the Drawings or accepted in writing by the ENGINEER.
      b. Where adhesive anchors are allowed personnel used for installation shall be certified by an applicable certification program per ACI 318-19 section 26.7.1 (l).
      c. Wind forces must be resisted by direct bearing on the anchors used to resist wind forces. Do not use connections which use friction to resist wind forces.

6. Anchor design capacity is to be independent of reinforcing steel in the concrete providing ductility.

1.04 SUBMITTALS

A. Shop Drawings and Calculations: Complete shop drawings and wind calculations.

B. Calculations shall be signed and stamped by a civil or structural Professional Engineer licensed to practice in the state where the Project is located. All calculations shall be done in English units.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01722

FIELD ENGINEERING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Field engineering to establish lines and grades for the Work.

B. Related Sections:
   1. Section 01770 - Closeout Procedures.

1.02 QUALITY ASSURANCE

A. Qualifications of Surveyor or Engineer: Registered civil engineer or land surveyor in state where Project is located.

1.03 CONSTRUCTION STAKES, LINES, AND GRADES

A. Execute the Work in accordance with the lines and grades indicated.

B. Make distances and measurements on horizontal planes, except elevations and structural dimensions.

1.04 SURVEY REFERENCE POINTS

A. Basic reference line, a beginning point on basic reference line, and a bench mark will be provided, by OWNER.

B. From these reference points, establish other control and reference points as required to properly lay out the Work.

C. Locate and protect control points prior to starting sitework, and preserve permanent reference points during construction.
   1. Make no changes or relocations without prior written notice.
   2. Replace Project control point, when lost or destroyed, in accordance with original survey control.

D. Set monuments for principal control points and protect them from being disturbed and displaced.
   1. Re-establish disturbed monuments.
   2. When disturbed, postpone parts of the Work that are governed by disturbed monuments until such monuments are re-established.

1.05 PROJECT SURVEY REQUIREMENTS

A. Establish minimum of 2 permanent bench marks on site referenced to data established by survey control points.

B. Record permanent bench mark locations with horizontal and vertical data on Project Record Documents.

1.06 RECORD DOCUMENTS

A. Prepare and submit Record Documents as specified in Section 01770.

B. Maintain complete, accurate log of control points and survey.

C. Affix civil engineer's or land surveyor's signature and registration number to Record Drawing to certify accuracy of information shown.

1.07 FIELD QUALITY CONTROL

A. Assume responsibility for accuracy of stakes, alignments, and grades by performing verifications and checking in accordance with standard surveying practice.

B. Accuracy of stakes, alignments, and grades may be checked randomly by ENGINEER.
   1. Notice of when checking will be conducted will be given.
   2. When notice of checking is given, postpone parts of the Work affected by stakes, alignments or grades to be checked until checked.
   3. Do not assume that ENGINEER's check substitutes or complements required field quality control procedures.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

A. Prior to construction, perform survey of all existing asphalt elevations and rock road elevations that will be disturbed by the construction and document existing drainage patterns to be used as part of the final grading at the end of the project. Document all high and low points, pavement elevations, and all drainage features in the affected work area.

B. Prior to Construction, perform survey to verify the path, slope, all utility crossings, and the tie in elevation for the Septage Receiving Facility Sanitary Sewer and drain lines. Verify all elevations with the Engineer prior to installing the drain line.

END OF SECTION

SECTION 01732

CUTTING AND PATCHING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Cutting and patching existing and new construction.

B. Related Sections:
   1. Section 01330 - Submittal Procedures.
   2. Section 01600 - Product Requirements.

1.02 SUBMITTALS

A. Submit Details of Proposed Construction as specified in Section 01330. Before Cutting or Patching Construction Affecting:
   1. Work of OWNER or of others.
   2. Structural integrity of element of Project.

B. Include with Submittal:
   1. Identification of Work.
   2. Description of affected construction.
   3. Necessity for cutting, patching, alteration, or excavation.
   4. Description of proposed construction.
   5. Scope of cutting, patching, alteration, or excavation.

PART 2 PRODUCTS

2.01 MATERIALS

A. Comply with specifications and standards for products involved.

PART 3 EXECUTION

3.01 PREPARATION

A. Provide adequate temporary support as necessary to ensure structural integrity of affected portion of Work.

B. Provide devices and methods to protect other portions of Project from damage and persons from injury.

C. Provide protection from elements for that portion of Project which may be exposed by cutting and patching, and maintain excavations free from water.

3.02 CUTTING AND PATCHING

A. Cut, Fit, and Patch When Required To:
   1. Make its several parts fit together properly.

2. Remove and replace construction not conforming to Contract Documents.
3. Remove samples of installed construction as specified for testing.
4. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

B. Execute cutting and demolition by methods which will prevent damage and will provide proper surfaces to receive installation of repairs.

C. Openings in existing concrete and masonry.
1. Create Openings By:
   a. Saw cutting completely through concrete or masonry, or
   b. Scoring edges of opening with saw to at least 1 inch depth on both surfaces (when accessible) and removing concrete or masonry by chipping.
2. Do not allow saw cuts to extend beyond limits of opening.
3. Make corners square and true by combination of core drilling and grinding or chipping.
4. Prevent debris from falling into adjacent tanks or channels in service or from damaging existing equipment and other facilities.

D. Sizing of openings in existing concrete or masonry.
1. Make openings sufficiently large to permit final alignment of pipe and fittings without deflections.
2. Allow adequate space for packing around pipes and conduit to ensure watertightness.

E. Grouting pipes in place.
1. Sandblast concrete surfaces and thoroughly clean sand and other foreign material from surfaces prior to placing grout.
2. Grout pipes, sleeves, castings, and conduits in place by pouring grout under a head of at least 4 inches. Vibrate grout into place. Completely fill the spaces occupied by pipes, sleeves, castings, and conduits.
3. Water cure the grout.

F. Connections to existing pipes.
1. Cut existing pipe square.
2. Properly prepare the ends for the connection indicated on the Drawing.
3. Repair any damage to existing lining and coating.

G. Rehabilitate all areas affected by removal of existing equipment, equipment pads and bases, piping, supports, electrical panels, electric devices, and conduits such that little or no evidence of the previous installation remains.
1. Fill areas in existing floors, walls, and ceilings from removed piping, conduit and fasteners with non-shrink grout and finish smooth.
2. Remove Concrete Bases for Equipment and Supports By:
   a. Saw cutting clean, straight lines with a depth equal to the concrete cover over reinforcement minus 1/2 inch below finished surface. Do not cut existing reinforcement on floors.
   b. Chip concrete within scored lines and cut exposed reinforcing steel and anchor bolts.
   c. Patch with non-shrink grout to match adjacent grade and finish.
3. Terminate abandoned piping and conduits with blind flanges, caps, or plugs.

H. Treat Existing Concrete Reinforcement as Follows:
   1. Where existing reinforcement is to remain, protect, clean, and extend into new concrete.
   2. Where Existing Reinforcement Is Not to Be Retained, Cut off as Follows:
      a. Where new concrete joins existing concrete at the removal line, cut reinforcement flush with concrete surface at the removal line.
      b. Where concrete surface at the removal line is the finished surface, cut reinforcement 2 inches below the surface, paint ends with epoxy, and patch holes with dry pack mortar.

END OF SECTION

SECTION 01738

SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Demolition of portions of structures indicated on the drawings.

1.02 SUBMITTALS

A. Shop Drawings: Include:
   1. Demolition methods of load bearing structures not **indicated on the Drawings**, signed and sealed by structural Professional Engineer registered in state where Project is located.
   2. Method of removing embedded relics and antiques.

B. Submittals for Information Only:
   1. Permits and notices authorizing demolition.
   2. Certificates of severance of utility services.
   3. Permit for transport and disposal of debris.
   4. Demolition procedures and operational sequence.

C. Project Record Documents: Include locations of service lines and capped utilities.

1.03 REGULATORY REQUIREMENTS

A. Dispose of debris in accordance with governing regulatory agencies.

B. Comply with applicable air pollution control regulations.

C. Obtain permits for building demolition, transportation of debris to disposal site and dust control.

1.04 PREPARATION

A. Protect areas not being demolished from damage by demolition activities.

1.05 ENVIRONMENTAL REQUIREMENTS

A. Apply for and obtain all environmental air quality permits for demolition. Cost of permits shall be paid for by the Contractor.

B. Do not interfere with use of adjacent buildings. Maintain free and safe passage to and from.

C. Prevent movement, settlement or collapse of structures adjacent services, sidewalks, driveways and trees. Provide and place bracing or shoring. Assume liability for movement, settlement or collapse. Promptly repair damage.

D. Cease operations and notify ENGINEER immediately when safety of structure appears to be endangered. Take precautions to properly support structure. Do not resume operations until safety is restored.

E. Provide erect and maintain barricades, lighting, guard rails, and protective devices as required to protect building occupants, general public, workers, and adjoining property.

1.06 EXISTING SERVICES

A. Arrange and pay for capping and plugging utility services. Disconnect and stub off. Notify affected utility company in advance and obtain approval before starting demolition.

B. Place markers to indicate location of disconnected services.

1.07 MAINTAINING TRAFFIC

A. Do not close or obstruct roadways without permits.

B. Conduct operations with minimum interference to public or private roadways.

1.08 MATERIALS

A. Materials and equipment to be retained by OWNER:
   1. Embedded relics and antiques such as cornerstones, cornerstone contents, commemorative plaques and tablets.

B. Materials and equipment to be re-installed:
   1. **None.**

C. Contractor shall furnish all materials, tools. equipment, devices, appurtenances, facilities and services required for performing selective demolition work.

D. Erect weatherproof closures for exterior openings. Maintain exit requirements.

E. Erect and maintain dustproof partitions as required to prevent spread of dust, fumes and smoke to other parts of building. On completion, remove partitions and repair damaged surfaces to match adjacent surfaces.

F. Protect interior of building from rain and water damage.

G. Provide and maintain protective devices to prevent injury from falling objects.

H. Locate guard rails in stairwells and around open shafts to protect workers. Post clearly visible warning signs.

I. Cause as little inconvenience to adjacent occupied building areas as possible.

J. Protect bench marks and existing construction to remain from damage or displacement.

K. Carefully remove designated materials and equipment to be retained by OWNER or re-installed. Deliver materials and equipment when and where directed by ENGINEER. Store and protect materials and equipment to be re-installed.

1.09 DEMOLITION

A. Demolish designated portions of structures and appurtenances in orderly and careful manner.

B. Assume possession of demolished materials, unless specified otherwise. Remove demolished materials from site at least weekly.

C. Prevent airborne dust. Use water or dust palliative when necessary. Provide and maintain hoses and connections to water main or hydrant.

D. Do not burn materials on site.

E. Pump out buried tanks. Remove tanks and service piping from site.

F. Immediately upon discovery, remove, and dispose of contaminated, vermin infested, or dangerous materials by safe means so as not to endanger health of workers and public.

G. Remove trees and shrubs within marked areas, clear undergrowth and dead plant material as specified in Section 02300.

H. Backfill open pits and holes caused by demolition as specified in Section 02300.

I. Rough grade areas affected by demolition.

J. Remove demolished materials, tools, and equipment upon completion of demolition.

1.10 REPAIR

A. Repair damage caused by demolition.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01756

TESTING, TRAINING, AND FACILITY START-UP

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Equipment and system testing and start-up.
   2. Services of manufacturer's representatives.
   3. Training of OWNER's personnel.
   4. Final testing requirements for the complete facility.

B. Related Sections:
   1. Section 01324 - Progress Schedule.
   2. Section 13410 - Basic Measurement and Control Instrumentation Materials and Methods.
   3. Section 15958 - Mechanical Equipment Testing.
   4. Section 16950 - Electrical Testing.

1.02 CONTRACT REQUIREMENTS

A. Testing, training, and start-up are requisite to the satisfactory completion of the Contract.

B. Complete testing, training, and start-up within the Contract Times.

C. Allow realistic durations in the Progress Schedule for testing, training, and start-up activities.

D. Furnish labor, power, chemicals, tools, equipment, instruments, and services required for and incidental to completing functional testing, performance testing, and operational testing.

E. Provide competent, experienced technical representatives of equipment manufacturers for assembly, installation and testing guidance, and operator training.

1.03 START-UP PLAN

A. Submit a general start-up plan with startup schedule and narrative explaining each stage, system, and phase of start up, including start up media required.

B. Submit start-up plan for each piece of equipment and each system not less than 3 weeks prior to planned initial equipment or system start-up.

C. Provide detailed subnetwork of Progress Schedule with the following activities identified:
   1. Manufacturer's services.
   2. Installation certifications.
   3. Operator training.
   4. Submission of Operation and Maintenance Manual.
   5. Functional testing.

6. Performance testing.
7. Operational testing.

D. Provide testing plan with test logs for each item of equipment and each system when specified. Include testing of alarms, control circuits, capacities, speeds, flows, pressures, vibrations, sound levels, and other parameters.

E. Provide summary of shutdown requirements for existing systems which are necessary to complete start-up of new equipment and systems.

F. Revise and update start-up plan based upon review comments, actual progress, or to accommodate changes in the sequence of activities.

1.04 PERFORMANCE TESTING

A. Test all Owner supplied and Contractor supplied equipment for proper performance.

B. When Source Quality Control testing is specified:
1. Demonstrate equipment meets specified performance requirements.
2. Provide certified copies of test results.
3. Do not ship equipment until certified copies have received written acceptance from ENGINEER. Written acceptance does not constitute final acceptance.
4. Include costs associated with witnessing performance tests in the bid price. Include costs for 1 OWNER's representative for travel, lodging, transportation to and from lodging, and 50 Dollars meal allowance per person per day.

1.05 GENERAL START-UP AND TESTING PROCEDURES

A. Mechanical Systems: As specified in individual equipment specifications.
1. Remove rust preventatives and oils applied to protect equipment during construction.
2. Flush lubrication systems and dispose of flushing oils. Recharge lubrication system with lubricant recommended by manufacturer.
3. Flush fuel system and provide fuel for testing and start-up.
4. Install and adjust packing, mechanical seals, O-rings, and other seals. Replace defective seals.
5. Remove temporary supports, bracing, or other foreign objects installed to prevent damage during shipment, storage, and erection.
6. Check rotating machinery for correct direction of rotation and for freedom of moving parts before connecting driver.
7. Perform cold alignment and hot alignment to manufacturer's tolerances.
8. Adjust V-belt tension and variable pitch sheaves.
9. Inspect hand and motorized valves for proper adjustment. Tighten packing glands to ensure no leakage, but permit valve stems to rotate without galling. Verify valve seats are positioned for proper flow direction.
10. Tighten leaking flanges or replace flange gasket. Inspect screwed joints for leakage.
11. Install gratings, safety chains, handrails, shaft guards, and sidewalks prior to operational testing.

B. Electrical Systems: As specified in Section 16950.
1. Perform insulation resistance tests on wiring except 120 volt lighting, wiring, and control wiring inside electrical panels.
2. Perform continuity tests on grounding systems.

3. Test and set switchgear and circuit breaker relays for proper operation.
4. Perform direct current high potential tests on all cables that will operate at more than 2,000 volts. Obtain services of independent testing lab to perform tests.
5. Check motors for actual full load amperage draw. Compare to nameplate value.

C. Instrumentation Systems: As specified in Section 13410.
1. Bench or field calibrate instruments and make required adjustments and control point settings.
2. Leak test pneumatic controls and instrument air piping.
3. Energize transmitting and control signal systems, verify proper operation, ranges and settings.

1.06 FUNCTIONAL TESTING

A. Functionally test mechanical and electrical equipment for proper operation after general start-up and testing tasks have been completed.

B. Demonstrate proper rotation, alignment, speed, flow, pressure, vibration, sound level, adjustments, and calibration. Perform initial checks in the presence of and with the assistance of the manufacturer's representative.

C. Demonstrate proper operation of each instrument loop function including alarms, local and remote controls, instrumentation and other equipment functions. Generate signals with test equipment to simulate operating conditions in each control mode.

D. Conduct continuous 8 hour test under full load conditions. Replace parts which operate improperly.

1.07 CERTIFICATE OF PROPER INSTALLATION

A. At completion of Functional Testing, furnish written report prepared and signed by manufacturer's authorized representative, certifying equipment:
1. Has been properly installed, adjusted, aligned, and lubricated.
2. Is free of any stresses imposed by connecting piping or anchor bolts.
3. Is suitable for satisfactory full-time operation under full load conditions.
4. Operates within the allowable limits for vibration.
5. Controls, protective devices, instrumentation, and control panels furnished as part of the equipment package are properly installed, calibrated, and functioning.
6. Control logic for start-up, shutdown, sequencing, interlocks, and emergency shutdown have been tested and are properly functioning.

B. Furnish written report prepared and signed by the Electrical and/or Instrumentation Subcontractor certifying:
1. Motor control logic that resides in motor control centers, control panels, and circuit boards furnished by the electrical and/or instrumentation subcontractor has been calibrated and tested and is properly operating.
2. Control logic for equipment start-up, shutdown, sequencing, interlocks and emergency shutdown has been tested and is properly operating.

C. Co-sign the reports along with the manufacturer's representative and subcontractors.

1.08 TRAINING OF OWNER'S PERSONNEL

A. Provide operations and maintenance training for items of mechanical, electrical and instrumentation equipment. Utilize manufacturer's representatives to conduct training sessions.

B. Coordinate training sessions to prevent overlapping sessions. Arrange sessions so that individual operators and maintenance technicians do not attend more than 2 sessions per week.

C. Provide Operation and Maintenance Manual for specific pieces of equipment or systems 1 month prior to training session for that piece of equipment or system.

D. Satisfactorily complete functional testing before beginning operator training.

E. Provide training sessions for each work shift listed below during the time periods shown. Pooling of shifts will not be permitted unless accepted by OWNER.

Shift		
Day	Tuesday, 7 a.m.-11 a.m.	Thursday, 7 a.m.-11 a.m.

F. Training sessions shall be provided for equipment provided per the following table.

Specification Number	Specification Section	O&M Manual Required	Minimum Number of Days for Actual Training
15111	Ball Valves	x	
15115	Gate, Globe, and Angle Valves	x	
Division 16	Electrical	x	

Notes:
X O&M Manual required.
Either no O&M Manual or no training required.
* Days per instrument.
1 Contractor to coordinate testing and training for Owner Supplied Equipment and assist in Owner training the number of days indicated.

G. The CONTRACTOR shall videotape all training sessions and provide a copy for the OWNER.

H. The CONTRACTOR shall designate and provide one or more persons to be responsible for coordinating and expediting his/her training duties. The person or persons so designated shall be present at all training coordination meetings with the OWNER.

I. The CONTRACTOR’s coordinator shall coordinate the training periods with OWNER personnel and manufacturer’s representatives, and shall submit a training schedule for each piece of equipment or system for which training is to be provided. Such training schedule shall be submitted not less than 21 calendar days prior to the time that the associated training is to be provided and shall be based on the current plan of operation.

1.09 OPERATIONAL TESTING

A. Control System Testing - Contractor shall provide a one week period for Control System Testing by the Owner after functional testing is complete and prior to 7 day operational testing.

B. Conduct operational test of the entire facility after completion of operator training. Demonstrate satisfactory operation of equipment and systems in actual operation.

C. Conduct operational test for continuous 7 day period.

D. OWNER will provide operations personnel, power, fuel, and other consumables for duration of test.

E. Immediately correct defects in material, workmanship, or equipment which became evident during operational test.

F. Repeat operational test when malfunctions or deficiencies cause shutdown or partial operation of the facility or results in performance that is less than specified.

1.10 RECORD KEEPING

A. Maintain and Submit Following Records Generated During Start-up and Testing Phase of Project:
   1. Daily logs of equipment testing identifying all tests conducted and outcome.
   2. Logs of time spent by manufacturer's representatives performing services on the job site.
   3. Equipment lubrication records.
   4. Electrical phase, voltage, and amperage measurements.
   5. Insulation resistance measurements.
   6. Data sheets of control loop testing including testing and calibration of instrumentation devices and setpoints.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01770

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Contract closeout, including final cleaning, sterilization of systems, preparation and submittal of closeout documents, and final completion certification.

B. Related Sections:
   1. Section 01722 - Field Engineering.

1.02 FINAL CLEANING

A. Perform final cleaning prior to inspections for Final Acceptance.

B. Employ skilled workers who are experienced in cleaning operations.

C. Use cleaning materials which are recommended by manufacturers of surfaces to be cleaned.

D. Prevent scratching, discoloring, and otherwise damaging surfaces being cleaned.

E. Clean roofs, gutters, downspouts, and drainage systems.

F. Broom clean exterior paved surfaces and rake clean other surfaces of sitework.
   1. Police yards and grounds to keep clean.

G. Remove dust, cobwebs, and traces of insects and dirt.

H. Clean grease, mastic, adhesives, dust, dirt, stains, fingerprints, paint, blemishes, sealants, plaster, concrete, and other foreign materials from sight-exposed surfaces, and fixtures and equipment.

I. Remove non-permanent protection and labels.

J. Clean permanent filters and replace disposable filters when heating, ventilation, and air conditioning units were operated during construction.

K. Clean ducts, blowers and coils when units were operated without filters during construction.

L. Clean light fixtures and replace burned-out or dim lamps.

1.03 WASTE DISPOSAL

A. Arrange for and dispose of surplus materials, waste products, and debris off-site.
   1. Prior to making disposal on private property, obtain written permission from OWNER of such property.

B. Do not fill ditches, washes, or drainage ways which may create drainage problems.

C. Do not create unsightly or unsanitary nuisances during disposal operations.

D. Maintain disposal site in safe condition and good appearance.

E. Complete leveling and cleanup prior to final acceptance of the Work.

1.04 TOUCH-UP AND REPAIR

A. Touch-up or repair finished surfaces on structures, equipment, fixtures, and installations that have been damaged prior to inspection for final acceptance.

B. Refinish or replace entire surfaces which cannot be touched-up or repaired satisfactorily.

1.05 FINAL CLEANING AND STERILIZATION OF SYSTEMS OF PLANT FACILITIES

A. Clean channels, pipe, basins, reservoirs, and tanks before running of 7 day test, or before facility goes on stream when 7 day test is not required.

B. Wash, wherever practicable, or broom sweep channels, pipe, basins, reservoirs, and tanks.

C. Sterilize filter basins, reservoirs, clear wells, tanks, channels, and piping intended to carry potable water as follows or in accordance with AWWA Standards.

D. Provide ample sampling outlets in pipe for testing.

E. Fill pipe and other plant facilities with chlorine solution of sufficient strength to retain residual of not less than 10 parts per million at end of 24 hours.

F. When reservoirs and basins are too large to be economically sterilized by filling with chlorine solution, spray reservoirs and basins with solution containing 100 parts per million of chlorine.

G. After sterilization, rinse entire potable water system with potable water sufficient to reduce chlorine residual to not more than 0.6 parts per million throughout system before system is put into service.

1.06 FINAL CLEANING AND STERILIZATION OF SYSTEMS OF POTABLE WATER MAINS

A. Clean interior of pipe and fittings.

B. When pipe contains dirt that cannot be removed by flushing, swab pipe interiors with solution containing not less than 500 parts per million of chlorine until clean.

C. Flush 12 inch in diameter and smaller pipe as thoroughly as available water sources will permit.

D. Fill pipe with chlorine solution of sufficient strength to provide 10 parts per million chlorine residual at end of 24 hours.

E. Flush pipes with potable water until chlorine residual is less than 0.6 parts per million before pipes are put into service.

1.07 CLOSEOUT DOCUMENTS

A. Submit following Closeout Submittals upon completion of the Work and at least 7 days prior to Application for Final Payment:
   1. Evidence of Compliance with Requirements of Governing Authorities.
   2. Project Record Documents.
   3. Operation and Maintenance Manuals.
   4. Warranties and Bonds.
   5. Keys and Keying Schedule.
   6. Evidence of Payment and Release of Stop Payment Notices and Liens as outlined in Conditions of the Contract.
   7. Release of claims as outlined in Conditions of the Contract.
   8. Survey Record Documents as specified in Section 01722.
   9. Certification of Final Completion.

1.08 EVIDENCE OF COMPLIANCE WITH REQUIREMENTS OF GOVERNING AUTHORITIES

A. Submit Following:
   1. Certificate of Occupancy.
   2. Certificates of Inspection:
      a. Elevators.
      b. Mechanical:
         1) Form U-1 "Manufacturer's Data Report for Unfired Pressure Vessels" for each pressure vessel furnished and installed.

1.09 PROJECT RECORD DOCUMENTS

A. Maintain at Project site, available to OWNER and ENGINEER, one copy of the Contract Documents, including Shop Drawings, Requests for Information (RFI's), Plan Clarifications (PCL's), Proposed Change Orders (PCO's) and other submittals in good order.
   1. Mark and record field changes and detailed information contained in submittals and change orders monthly.
   2. Record actual depths, horizontal and vertical location of underground pipes, duct banks and other buried utilities. Reference dimensions to permanent surface features.
   3. Identify specific details of pipe connections, location of existing buried features located during excavation, and the final locations of piping, equipment, electrical conduits, manholes, and pull boxes.
   4. Identify location of spare conduits including beginning, ending and routing through pull boxes, and manholes. Record spare conductors, including number and size, within spare conduits, and filled conduits.
   5. Provide schedules, lists, layout drawings, and wiring diagrams.
   6. Make annotations with erasable colored pencil conforming to the following color code:

Additions	Red
Deletions	Green
Comments	Blue
Dimensions	Graphite

B. Maintain documents separate from those used for construction.
   1. Label documents "RECORD DOCUMENTS."

C. Keep documents current.
   1. Record required information at the time the material and equipment is installed and before permanently concealing and update monthly.

D. Deliver record documents with transmittal letter containing date, Project title, CONTRACTOR's name and address, list of documents, and signature of CONTRACTOR.

E. During progress meetings, record documents will be reviewed to ascertain that changes have been recorded and the availability of Contract Documents, including Shop Drawings, RFI's, PCL's, PCO's and other submittals will be verified. Monthly contractor payments will be held until record drawings and Contract Documents are properly updated.

1.10 WARRANTIES AND BONDS

A. Provide executed Warranty Form as outlined in the General Conditions.

B. Provide specified additional warranties and bonds from manufacturers and suppliers.

1.11 CERTIFICATE OF FINAL COMPLETION

A. When 7 day operational test has been successfully completed, ENGINEER will certify new facilities are operationally complete. ENGINEER will submit a list of known items (punchlist) still to be completed or corrected prior to contract completion.

B. List of items to be completed or corrected will be amended as items are resolved by CONTRACTOR.

C. When all items have been completed or corrected, submit written certification that the entire work is complete in accordance with the Contract Documents and request final inspection.

D. Upon completion of final inspection, ENGINEER will either prepare a written acceptance of the entire work or advise CONTRACTOR of work not complete. If necessary, inspection procedures will be repeated.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01782

OPERATING AND MAINTENANCE DATA

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Preparation and submittal of Operating Maintenance Manuals.

1.02 SUBMITTALS

A. Submit Operating and Maintenance Manuals before field quality control testing and before training of each piece of equipment or system.

B. Submit 3 Manuals for each piece of equipment or system and one electronic PDF copy.

C. Make manuals available at project site for use by construction personnel and ENGINEER.

D. Make additions and revisions to the Manuals in accordance with ENGINEER's review comments.

1.03 PREPARATION

A. Provide Operations and Maintenance Manuals in 3-ring binders with rigid covers and an Electronic PDF copy. Utilize tab sheets to organize information. Electronic PDF copy shall be clearly legible and include all job specific electrical schematics and interconnect drawings. PDF copy shall include organization tabs to allow easy navigation of the manual.

B. Manual Contents:
   1. Cover Page: Equipment name, equipment tag number, project name, OWNER's name, appropriate date.
   2. Table of Contents: General description of information provided within each tab section.
   3. Lubrication Information: Required lubricants and lubrication schedules.
   4. Control Diagrams: Internal and connection wiring, including logic diagrams, wiring diagrams for control panels, ladder logic for computer based systems, and connections between existing systems and new additions, and adjustments such as calibrations and set points for relays, and control or alarm contact settings.
   5. Start-up Procedures: Recommendations for installation, adjustment, calibration, and troubleshooting.
   6. Operating Procedures: Step-by-step procedures for starting, operating, and stopping equipment under specified modes of operation. Include safety precautions and emergency operating shutdown instructions.
   7. Preventative Maintenance Procedures: Recommended steps and schedules for maintaining equipment.
   8. Overhaul Instructions: Directions for disassembly, inspection, repair and reassembly of the equipment; safety precautions; and recommended tolerances, critical bolt torques, and special tools that are required.

9. Parts List: Generic title and identification number of each component part of equipment; include bearing manufacturer, model and ball or roller pass frequencies for every bearing.
10. Spare Parts List: Recommended number of parts to be stored at the site and special storage precautions.
11. Drawings: Exploded view or plan and section views with detailed callouts.
12. Provide electrical and instrumentation schematic record drawings.
13. Source (Factory) Quality Control Test Results: Provide copies of factory test reports as specified in Sections 15958 or the equipment section.
14. Field Quality Control Test Results: After field testing is completed, insert field test reports as specified in Sections 15958 or the equipment section.
15. Equipment Summary Form: Completed form in the format attached at the end of this Section. Insert Equipment Summary Form after the tab sheet of each equipment section. The manufacturer's standard form will not be acceptable.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

EQUIPMENT SUMMARY FORM

1. EQUIPMENT ITEM_____

2. MANUFACTURER_____

3. MANUFACTURER MODEL NUMBER(S)_____

4. PROJECT EQUIPMENT IDENTIFICATION NUMBER(S)_____

5. LOCATION OF EQUIPMENT_____

6. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS)_____

_____

_____

7. NAMEPLATE DATA - Horsepower_____
   Amperage_____
   Voltage_____
   Service Factor (S.F.)_____
   Speed_____
   ENC Type_____
   Capacity_____
   Other_____

8. MANUFACTURER'S LOCAL REPRESENTATIVE

   Name_____

   Address_____

   Telephone
   Number_____

9. MAINTENANCE REQUIREMENTS_____

_____

_____

10. LUBRICANT LIST_____

_____

11. SPARE PARTS (recommendations)_____

_____

12. COMMENTS_____

_____

SECTION 02084

UTILITY STRUCTURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Onsite utility structures.
   1. Precast concrete manholes.
   2. Precast drainage inlets.
   3. Precast ground well boxes

B. Related Sections:
   1. Section 02318 - Trenching.
   2. Section 03300 - Cast-in-place Concrete.
   3. Section 05500 - Metal Fabrications.
   4. Section 09960 – High Performance Coatings

1.02 REFERENCES

A. American Society of Testing and Materials (ASTM):
   1. A 48 - Specification for Gray-Iron Castings.
   2. C 361 - Specification for Reinforced Concrete Low-Head Pressure Pipe.
   3. C 478 - Specification for Precast Reinforced Concrete Manhole Sections.
   4. C 857 - Minimum Structural Design Loading for Underground Precast Concrete Utility Structures.
   5. C 858 - Underground Precast Concrete Utility Structures.
   6. ASTM-C-1244 - Concrete Sewers Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. Manholes and Appurtenances: Manholes and appurtenances shall be watertight and free from infiltration or exfiltration.

1.04 SUBMITTALS

A. Shop Drawings: Submit shop drawings for all proposed precast utility structures.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

A. Precast Concrete Manholes:
   1. Construct precast concrete manholes in accordance with design, size, shape, form, details, and at locations **indicated on the Drawings** and specified.
   2. Construct manholes of precast eccentric or concentric manhole units in accordance with the requirements **indicated on the Drawings** and specified.
   3. Provide precast, cylinder units, taper sections, and eccentric flat top sections meeting strength requirements for "Precast Reinforced Concrete Manhole Risers

and Tops," ASTM C 478.
4. Base design and manufacture to A-16 (HS 20-44) loading in accordance with ASTM C 857.
5. Liner: Coat or line all interior surfaces of manhole with coating system or PVC liner as indicated on the drawings and as specified in Section 09960.

B. Precast Drainage Inlets:
1. Construct precast concrete drainage inlets in accordance with the size, shape, form, details, and at locations **indicated on the Drawings** and specified.
2. Base design and manufacture to A-16 (HS 20-44) loading in accordance with ASTM C 857.
3. Precast drainage inlets shall conform to ASTM C 858.

C. Precast Ground Well Boxes: 8 inch inside diameter, minimum.
1. Manufacturers: One of the Following or Equal:
a. Brooks Products, Inc., valve boxes.
b. Christy, valve boxes.

2.02 ACCESSORIES

A. Precast Concrete Manholes:
1. Joint Sealing Compound: Preformed cold-applied ready-to-use plastic joint sealing compound. Manufacturers: One of the following or equal:
a. Quikset Utility Vaults, Santa Ana, CA, Quik-Seal.
b. K. T. Snyder Company, Ram-Neck.
2. Manhole Frames and Cover Sets: Type, size, and quality as specified in Section 05500 or as **indicated on the Drawings**.
3. Drop Manhole Fittings:
a. Drop Tee and Other Fittings: PVC pipe or as otherwise specified or **indicated on the Drawings**.

B. Precast drainage inlets.
1. Covers: As indicated on the Drawings.

PART 3 EXECUTION

3.01 INSTALLATION

A. Concrete Manholes.
1. Excavation and Backfill: As specified in Section 02318.
2. Precast Concrete Manholes.
a. Manhole Bases:
1) Form and place concrete on undisturbed soil and/or on aggregate base course compacted to 95 percent of maximum density.
2) Form that portion of base above invert elevation of sewer pipe to provide smooth channel section as **indicated on the Drawings**.
3) Check forms for accuracy of dimensions and relative smoothness prior to placing concrete for base. Channels shall vary uniformly in size and shape from inlet to outlet if required.
4) Construct of Class A concrete in accordance with Section 03300 to form and dimensions **indicated on the Drawings**.
5) Place base concrete as monolith.
b. Manhole Sections:

1) Set each manhole section perfectly plumb.
2) Use sections of various heights and adjustment rings in order to bring top of manhole ring and cover to required elevation.

c. Joints:
1) Seal joints with joint sealing compound unless otherwise **indicated on the Drawings**.
2) Clean joints with brush and prime.
3) Apply sealing compound as follows, except where instructions differ from manufacturer's printed instructions. Where these instructions differ from manufacturer's instructions, install sealing compound in accordance with manufacturer's written instructions.
a) Remove silicon treated protective paper from one side of preformed rope and lay preformed rope, paper side up, on cleaned joint surface. Press surface firmly end-to-end around entire joint, making minimum 1 inch laps where necessary.
b) Remove protective paper from preformed rope and lower next section into place.
4) Seal joints watertight.

d. Manhole Frame and Cover Sets:
1) Install manhole frames and cover sets at locations indicated.
2) Setting:
a) Set manhole frames and covers at elevations and requirements **indicated on the Drawings**.
b) Where structure is outside limits of traveled shoulder but not in roadside ditch, place structure 1/10 foot or more above existing ground surface.
c) Where cover is in existing pavement or in traveled way of existing road shoulder, place cover flush with existing surface.
d) Where manhole cover falls in existing roadside ditch or right of way, place manhole cover approximately 1-1/2 feet above existing ground surface.
e) Set manhole frames at required grade and securely attach to top of precast manhole shaft unit or on adjustment rings, using cement mortar.
f) Setting Covers: After frames are securely set in place in accordance with requirements specified herein, install covers and perform necessary cleaning and scraping of foreign materials from frames and covers as required to accomplish and to assure proper fit. Any frame and cover which creates noise when passed over by traffic shall be replaced.

3. Drop Manholes:
a. Construct drop manholes at locations and in conformance with the details **indicated on the Drawings**.
b. Provide inside diameter of drop inlet pipe the same as intercepted sewer unless otherwise **indicated on the Drawings** or specified in this Section.
c. Furnish and set fittings in manner as **indicated on the Drawings**.

4. Pipe Stubs:
a. Provide pipe stubs at manhole locations and in conformance with details **indicated on the Drawings** and as specified.
b. Plugging Stubs:
1) Plug stubs with vitrified clay stopper or brick plug as **indicated on the Drawings**.
2) Unless otherwise **indicated on the Drawings**, comply with following:
a) Stubs Up to and Including 21 Inches: Vitrified clay stoppers.

b) Stubs Greater than 21 Inches: Brick plugs.

B. Precast Drainage Inlets.
1. Excavation and Backfill: As specified in Section 02318.

3.02 FIELD QUALITY CONTROL

A. Tests.
1. Sanitary Sewer Manholes: Vacuum test all sanitary sewer manholes per ASTM C-1244. Use following vacuum test procedures and requirements:
   a. After completion of the manhole barrels but prior to backfilling and grade ring installation, seal all openings in the manhole with plugs and a rubber ring "donut" type plug inserted inside the opening of the cone.
   b. Attach a small vacuum pump to a hose connected to the plug and apply 4 pounds per square inch of vacuum. Allow vacuum to stabilize at 3.5 pounds per square inch for 1 minute, then begin the test. The manhole must maintain vacuum such that no greater than 0.5 pounds per square inch of vacuum is lost during the specified test period.
   c. The specified test period is as follows:

Manhole Depth (feet)	Minimum Test Period (Seconds)
0-5	13
5-10	33
10-15	52
Greater than 15	65

   d. Patch as required and retest manholes that fail the test.
   e. Provide a vacuum regulator on the vacuum pump such that no greater than 10 pounds per square inch can be applied to the manhole during the test. Repair all manholes that do not meet the leakage test, or are unsatisfactory from visual inspection. Retest after repair is completed.

END OF SECTION

SECTION 02200

SITE PREPARATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Clearing, grubbing, and stripping project site.

1.02 DEFINITIONS

A. Clearing: Consists of removal of natural obstructions and existing foundations, buildings, fences, lumber, walls, stumps, brush, weeds, rubbish, trees, boulders, utility lines, and any other items which shall interfere with construction operations or are designated for removal.

B. Grubbing: Grubbing shall consist of the removal and disposal of wood or root matter below the ground surface remaining after clearing and shall include stumps, trunks, roots, or root systems greater than 1 inch in diameter or thickness to a depth of 6 inches below the ground surface.

C. Stripping: Stripping shall include the removal and disposal of all organic sod, topsoil, grass and grass roots, and other objectionable material remaining after clearing and grubbing from the areas designated to be stripped. The depth of stripping is estimated to be 6 inches, but the required depth of stripping will be determined by the ENGINEER.

D. **Trees and Adjacent Vegetation**
   1. **Protect all adjacent trees and vegetation from damage whenever possible. Review all tree cutting or removal with the Owner prior to any tree or vegetation removal.**

1.03 QUALITY ASSURANCE

A. Regulatory Requirements: Verify and comply with applicable regulations regarding those governing noise, dust, nuisance, drainage and runoff, fire protection, and disposal.

B. Pre-construction Conference: Meet with ENGINEER to discuss order and method of work.

1.04 PROJECT CONDITIONS

A. Environmental Requirements:
   1. For suspected hazardous materials found, comply with - Hazardous Materials Procedures of project front end Division 0 specifications.

B. Existing Conditions:
   1. Verify character and amount of clay, sand, gravel, quicksand, water, rock, hardpan, and other material involved and work to be performed.

1.05 SEQUENCING AND SCHEDULING

A. Clearing and Grubbing: Perform clearing and grubbing in advance of grading operations.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine site and verify existing conditions for beginning work.

3.02 PREPARATION

A. Protect existing improvements from damage by site preparation work. Install fence at drip line of trees to remain as **indicated on the Drawings**.

3.03 INSTALLATION

A. **All clearing, grubbing, and stripping materials can be temporarily stored on-site at the WWTP at the location shown on the drawings. All clearing, grubbing, and stripping materials shall be off-hauled and disposed of by the Contractor in a legal manner prior to completion of the project.**

B. Clearing:
   1. Clear areas where construction is to be performed and other areas as **indicated on the Drawings** or specified in this Section of fences, lumber, walls, stumps, brush, roots, weeds, trees, shrubs, rubbish, and other objectionable material of any kind which, if left in place, would interfere with proper performance or completion of the work, would impair its subsequent use, or form obstructions therein.
   2. Do not incorporate organic material from clearing and grubbing operations in fills and backfills.
   3. Contractor's Construction Facilities: Fill or remove pits, fill, and other earthwork required for erection of facilities, upon completion of the work, and level to meet existing contours of adjacent ground.

C. Grubbing:
   1. From Excavated Areas: Grub stumps, roots, and other obstructions 3 inches or over in diameter to depth of not less than 18 inches below finish grade.
   2. In Embankment Areas or Other Areas to be Cleared Outside Construction Area: Do not leave stumps, roots, and other obstructions higher than the following requirements:

Height of Embankment over Stump	Height of Clearing and Grubbing
0 feet to 2 feet	Grub stumps or roots 3 inches or over in diameter to 18 inches below original grade. Cut others flush with ground.
2 feet to 3 feet	Grub stumps 1 foot and over in diameter to 18 inches below original grade. Cut others flush with ground.
Over 3 feet	Leave no stumps higher than stump top diameter, and in no case more than 18 inches.

3. Backfill and compact cavities left below subgrade elevation by removal of stumps or roots to density of adjacent undisturbed soil.

D. Stripping:

1. Remove soil material containing sod, grass, or other vegetation to depth of 6 inches from areas to receive fill or pavement or final ABC in lieu of paving and from area within 5 feet outside foundation walls.
2. Deposit stripped material in accordance with following requirements:
   a. Materials free of organics may be re-used in conformance with the project geotechnical report.
   b. Off-haul and dispose of all material not reused as part of the project.
3. Replace topsoil where **indicated on the Drawings**.

E. Special Techniques:
1. None.

END OF SECTION

Section 02233

WATERING

PART 1: GENERAL

1.01 DESCRIPTION

The work of this section consists of furnishing, hauling, and applying water required in the compaction of embankments, backfills, subgrade, and base course, and for landscaping, dust control, and other construction operations.

PART 2: MATERIALS

2.01 WATER

A. Non-potable water for construction and testing purposes will be available from the Owner at no cost to the Contractor. Only non-potable water shall be used for Construction water. The water is secondary effluent available at hosebibs or hydrants located at the facility. The Contractor shall be responsible for coordinating with the Engineer for the use of this water.

B. No provision in this section is intended to prevent the Contractor from making arrangements for water from other than Owner sources. All costs involved shall be the responsibility of the Contractor's.

C. Potable water for use by the Contractor personnel or other purposes shall be coordinated by the Contractor at the Contractor's expense.

PART 3: EXECUTION

3.01 EQUIPMENT

A. Contractor shall provide all necessary pumping equipment, piping, meters, tanks, and water trucks to withdraw and utilize the water. Water trucks shall be of at least 1,000 gallon capacity, equipped with a spray bar of ample capacity and design to insure uniform application of water in the amounts required.

B. The Contractor shall identify all equipment using or hauling "secondary effluent" to notify workmen of potential for contact. Signage shall be as approved by the Engineer.

END OF SECTION

SECTION 02240

DEWATERING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Installation and maintenance of dewatering systems. Disposal of water entering excavation or other parts of the work.

B. Related Sections:
   1. Section 03300 - Cast-in-place Concrete.
   2. Section 03600 - Grouts.

1.02 SUBMITTALS

A. Plan: Proposed dewatering plan including arrangement, location, and depths of system components, type, and sizes of filters, and required permits.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Assume responsibility for obtaining water discharge permits that are required.

1.04 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Keep excavations reasonably free from water. The static water level shall be drawn down a minimum of 4 feet below the bottom of excavations.
   2. Do not place concrete or masonry footings, foundations, or floors in water, nor allow water to rise over them until concrete or mortar has set at least 24 hours.
   3. Maintain operation of the dewatering system until the complete structure including walls, slabs, beams, struts, and all other structural elements has attained specified strength, and backfill has been completed to 3 feet above the normal static groundwater level.
   4. Provide standby power to ensure continuous dewatering in case of power failure.
   5. Prior to release of groundwater to its static level, all pressure relief devices shall be fully operational.
   6. Release of groundwater to its static level shall be controlled to prevent disturbance of the natural foundation soils or compacted fill and to prevent flotation or movement of structures or pipelines.

B. Refer to project Geotechnical reports for historical data on ground water and soil types.

1.05 SEQUENCING AND SCHEDULING

A. Within Limits of Structure Foundation: Secure written permission from the ENGINEER before locating wells, well points, or drain lines for purposes of dewatering.

B. Locate dewatering facilities where they will not interfere with utilities and construction work to be performed by others.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 INSTALLATION

A. Provide and Maintain During Construction: Ample means and devices with which to promptly remove and properly dispose of water entering excavation or other parts of the work, whether water be surface water or underground water.

B. Intercept and divert precipitation and surface water away from excavations through the use of dikes, curb walls, ditches, pipes, sumps, or other means.

C. Disposing of Water:
   1. Dispose of water from the work in suitable manner into sludge drying bed. Contractor shall provide all pumps and hoses required to reach the sludge drying bed.
   2. Do not drain water into work built or under construction.

D. Wells, Well Points, and Drain Lines for Dewatering:
   1. Locate after receipt of Engineer's written permission.
   2. Fill dewatering wells, lines, and French drains to be left in place within structure foundation limits with Class C concrete as specified in Section 03300 or grout as specified in Section 03600, when directed by the ENGINEER.

END OF SECTION

SECTION 02260

EXCAVATION SUPPORT AND PROTECTION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Excavation support and protection.

B. Related Sections:
   1. Section 02300 – Earth Work

1.02 REFERENCES

A. American Institute of Steel Construction, Inc. (AISC):
   1. Manual of Steel Construction Allowable Stress Design.

B. American Society of Civil Engineers:
   1. Guidelines of Engineering Practice for Braced and Tied-Back Excavations.

C. California Code of Regulations (CCR):
   1. Title 8 - Construction Safety Orders.

D. California Labor Code Sections 6705 to 6707 (CLC).

E. Department of the Navy Naval Facilities Engineering Command (NAVFAC):
   1. NAVFAC Design Manual 7.2 - Foundations and Earth Structures.
   2. NAVFAC Design Manual 7.3 - Soil Dynamics Deep Stabilization and Special Geotechnical Construction.

F. International Code Council (ICC):
   1. California Building Code (CBC).

G. State of California Department of Transportation (CALTRANS):
   1. CALTRANS California Trenching and Shoring Manual.

H. United States Steel Corporation (USS):
   1. USS Steel Sheet Piling Design Manual.

1.03 DEFINITIONS

A. General Engineering Design Practice: General engineering design practice in area of the Project, performed in accordance with recent engineering literature on subject of shoring and stability of excavations.
   1. Where general engineering design practice is specified, provide drawings and signed calculations and have design performed by civil or structural engineer registered in State where the Project is located.
      a. Provide design calculations that clearly disclose assumptions made, criteria followed, and stress values used for the materials being used.
      b. Furnish references acceptable to ENGINEER and GEOR substantiating appropriateness of design assumptions, criteria, and stress values.

B. Shoring: A temporary structural system designed to support vertical faces, or nearly vertical faces, of soil or rock for purposes of excavation. Shoring includes cantilevered sheet piling, internally braced sheet piling, slurry walls, soldier piles and lagging, and other similar shoring systems. Sloping of the soil is not shoring.

C. Geotechnical Engineer-of-Record (GEOR): Is the geotechnical engineer who provided geotechnical design recommendations for the project and/or who has been retained by the OWNER to provide geotechnical consultation, review of submittals and RFIs, and confirmatory/compliance observation and compaction testing services of earthwork operations during construction of the project. Also serves as the OWNER's Testing Laboratory.

1.04 SYSTEM DESCRIPTION

A. Design Requirements:
   1. General:
      a. Design means for safe and stable excavations in accordance with general engineering design practice.
         1) Preceding shall not apply to trench excavation support conforming to standards set forth in CCR Title 8 - Construction Safety Orders.
      b. Design steel members in accordance with the California Building Code and the AISC Manual of Steel Design.
      c. Design shoring involving materials other than steel in accordance with California Building Code.
      d. Perform design in accordance with soil characteristics and design recommendations contained in a written geotechnical report issued and signed by a geotechnical engineer hired by Contractor. The project geotechnical report prepared for the ENGINEER and Owner and made available to the Contractor is for bidding purposes only and shall not be used for shoring design. Contractor's geotechnical engineer shall be registered in the state where the Project is located.
         1) Make copy of geotechnical report available at project site for Engineer's review.
         2) Retain and pay for geotechnical engineer's services.
         3) Obtain report based on soil samples, field and laboratory tests, and borings performed for the geotechnical report for the design of stability of excavations by the geotechnical engineer hired by Contractor.
      e. When electing to design with material stresses for temporary construction higher than allowable stresses prescribed in the Manual of Steel Construction and the California Building Code, increase in such stresses shall not exceed 10 percent of value of prescribed stresses.
      f. Minimum safety factor used for design shall not be less than 1.5.
      g. The calculated minimum depth of penetration of shoring below the bottom of the excavation shall be increased not less than 30 percent if the full value of passive pressure is used in the design.
      h. The maximum height of cantilever shoring above the bottom of excavation shall not exceed 15 feet. Use braced shoring when the height of shoring above the bottom of excavation exceeds 15 feet.
      i. The location of the point of fixity for shoring shall not be less than half the calculated minimum embedment depth below the bottom of the excavation.
      j. Generally acceptable references for the design of shoring and excavations are as follows:
         1) CALTRANS California Trenching and Shoring Manual.
         2) NAVFAC Design Manual 7.2 - Foundations and Earth Design.

3) NAVFAC Design Manual 7.3 - Soil Dynamics Deep Stabilization and Special Geotechnical Construction.
4) USS Steel Sheet Piling Design Manual.
5) Guidelines of Engineering Practice for Braced and Tied-Back Excavations published by American Society of Civil Engineers.

k. The maximum total deflection at any point on the shoring shall not be more than 3/4 inch.
l. Shoring design shall be performed by a qualified design firm with a minimum of 10 years of experience in the design of shoring systems. Include cost for this shoring design in bid.
m. The shoring design firm shall obtain errors and omissions insurance for the Project for an amount of not less than 1,000,000 dollars.

2. Soldier Piles and Lagging:
a. Provide lagging over the full face of the excavation. Joints between pieces of lagging shall be tight to prevent loss of soil.
b. Provide full face lagging all around penetrations through the lagging.
c. If the soldier piles are installed in predrilled holes, the predrilled holes shall be filled with controlled low strength material after the soldiers piles are installed.
d. The effective width of driven soldier piles for passive soil resistance shall not exceed 2 times the width of the pile. The effective width of concrete encased soldier piles for passive soil resistance shall not exceed 2 times the width of the concrete encasement.
e. Fill voids behind lagging with gravel or other material acceptable to the ENGINEER.
f. Apply loads from tie back soil, rock, or deadman anchors concentrically to soldier piles or wales spanning between soldier piles. Wales shall be back-to-back double channels or other members acceptable to the ENGINEER. Eccentrically loaded with section soldier piles or wales are not acceptable.
g. Design soldier piles for downward loads including vertical loads from tie back anchors.

3. Soil Anchors, Rock Anchors, and Deadman Anchors:
a. Design tie back anchors for a safety factor of not less than 2 times the calculated load form the shoring.
b. Proof load all production anchors to not less than 125 percent of the calculated load from the shoring. Lock off anchors at the calculated anchor load.
c. The length of soil anchors used to calculate resistance to load from the shoring, shall not include any length within the potential active pressure soil failure zone behind the face of shoring.
d. Design tie rods for anchors for 130 percent of the calculated load from the shoring.
e. Design tie rods for anchors for 150 percent of the calculated load from the shoring when tie rod couplers are used and for other conditions where stress concentrations can develop.

B. Performance Requirements:
1. General:
a. Support faces of excavations and protect structures and improvements in vicinity of excavations from damage and loss of function due to settlement or movement of soils, alterations in ground water level caused by such excavations, and related operations.
b. Herein Specified Provisions:
1) Complement, but do not substitute or diminish, obligations of Contractor for the furnishing of a safe place of work pursuant to provisions of the

Occupational Safety and Health Act of 1970 and its subsequent amendments and regulations and for protection of the Work, structures, and other improvements.

2) Represent minimum requirement for:
   a) Number and types of means needed to maintain soil stability.
   b) Strength of such required means.
   c) Methods and frequency of maintenance and observation of means used for maintaining soil stability.

2. Provide safe and stable excavations by means of sheeting, shoring, bracing, sloping, and other means and procedures, such as draining and recharging groundwater and routing and disposing of surface runoff, required to maintain the stability of soils and rock.
3. Provide support for trench excavations for protection of workers from hazard of caving ground.
4. Provide Shoring:
   a. Where, as result of excavation work and analysis performed pursuant to general engineering design practice, as defined in this Section:
      1) Excavated face or surrounding soil mass may be subject to slides, caving, or other types of failures.
      2) Stability and integrity of structures and other improvements may be compromised by settlement or movement of soils, or changes in soil load on structures and other improvements.
   b. For trenches 5 feet and deeper.
   c. For trenches less than 5 feet in depth, when there is a potential for cave-in.
   d. Where **indicated on the Drawings.**
5. For safe and stable excavations, use appropriate design and procedures for construction and maintenance to minimize settlement of supported ground and to prevent damage to structures and other improvements, including:
   a. Using stiff support systems.
   b. Following appropriate construction sequence.
   c. Preventing soil loss through or under support system.
      1) Provide support system that is tight enough to prevent loss of soil and extend deep enough to prevent heave or flow of soils from supported soil mass into the excavation.
   d. Providing surface runoff routing and discharge away from excavations.
   e. Where dewatering is necessary, recharge groundwater as necessary to prevent settlement in area surrounding excavation.
   f. Where sheet piling is used, use interlocking type sheets. The sheet piles shall be continuous and driven in interlock. If the bottom of the excavation is located below the water table, use "thumb and finger" type interlock.
   g. Not applying shoring loads to existing structures and other improvements.
   h. Not changing existing soil loading on existing structures and other improvements.
   i. Provide welded steel packing between soil retaining members such as sheet piles and wales and similar members when the gap exceeds 1/2 inch before the wales are loaded.

C. The slope face of temporary unshored excavations shall be located a minimum lateral distance of 10 feet from the outer edge of existing foundations.
D. Where shoring is proximate to existing structures, surcharge loads imposed by such structures shall be included in the shoring design.

1.05 SUBMITTALS

A. Shop Drawings and Calculations:

1. In accordance with requirements in California Labor Code for trench excavations 5 feet or more in depth and for trenches less than 5 feet in depth when there is potential for cave-in. Submit in advance of excavation work, detailed drawings showing means for safe and stable excavations.
    a. Where such drawings vary from excavation support standards set forth in California Code of Regulations Title 8 - Construction Safety Orders, submit design calculations pursuant to general engineering design practice.
    b. Provide means for safe and stable excavations that are not less effective than required in CCR Title 8 - Construction Safety Orders.
2. For excavations other than trenches, submit, in advance of excavation work, design calculations as performed pursuant to general engineering design practice, as specified in this Section, and detail drawing showing means for safe and stable excavations. In design calculations and detail drawing, cover, as a minimum:
    a. Excavations adjacent to structures and other improvements, and
    b. Excavations 5 feet or more in depth, or less than 5 feet in depth when there is potential for cave-in, at other locations.
3. Submit Following:
    a. Provide calculations for the different load, support, and other conditions that occur during the sequence of installation of shoring, construction of facilities protected by the shoring, and sequence of removal of shoring.
    b. Provide sketches showing the condition at various stages of installation and removal of shoring.
    c. Show structures, pipelines, and other improvements located near the shoring, and the shoring on a plan.
    d. When utilities penetrate the shoring, submit an elevation of all sides of the shoring showing the locations of the penetrations. Submit details on ground support and sealing around utility penetrations.
    e. All calculations and drawings to be wet signed by a licensed Civil or structural Engineer in the State of California.

B. Written geotechnical report on soil characteristics and design recommendations, as specified in this Section. Report shall be wet signed and sealed by a geotechnical engineer registered in the state of California.

C. Control Points and Schedule of Measurements:
1. Submit location and details of control points and method and schedule of measurements in accordance with requirements of this section.
2. Promptly upon constructing control points and making measurements at such control points, as specified in this Section, submit copy of field notes with such measurements. The field notes shall show the current measurement and the change in measurement from the first measurement taken.

D. Detailed Sequence of Installation and Removal of Shoring:
1. Consider effects of ground settlement in the sequence of installation and removal of shoring.
2. Provide sketches showing the conditions at various stages in the sequence of installation and removal of shoring.

E. Submit submittals for stability of excavations as a complete package and include all items required in this section. Incomplete submittals will not be reviewed and will be returned for resubmittal as a complete package.

1.06 SEQUENCING AND SCHEDULING

A. Do not begin work on excavations, trenches, and means for providing stability of excavation and trenches until submittals have been reviewed and accepted by ENGINEER and until materials necessary for installation are on site.

B. Submit submittals a minimum of 30 days prior to the scheduled date to begin excavation work.

C. Do not begin construction of any shoring or excavation operations until:
   1. Control points as specified in this Section and as **indicated on the Drawings** on existing structures and other improvements have been established and surveyed to document initial elevations and locations.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 INSTALLATION AND REMOVAL

A. Install means for providing safe and stable excavations as indicated in the submittals.

B. Except for concrete encased soldier piles, slurry walls, and similar shoring systems, remove shoring by completion of the Work. Select shoring system and method of removal which will minimize soil which sticks to shoring from creating large voids and causing settlement. To prevent settlement caused by pulling shoring, fill voids with sand, pea gravel, or pressure injected grout. The methods used shall prevent settlement. Pressure preservative treated wood lagging may be left in place when acceptable to the ENGINEER.

3.02 MAINTENANCE

A. Where loss of soil occurs, plug gap in shoring and replace lost soil with fill material acceptable to ENGINEER.

B. Where measurements and observations indicate possibility of failure or excessive movement of excavation support, determined in accordance with general engineering design practice, take appropriate action immediately.

3.03 CONTROL POINTS

A. Establish control points on shoring and on structures and other improvements in vicinity of excavation for measurement of horizontal and vertical movement.
   1. Set Control Points On Shoring Support System:
      a. Set points at distances not exceeding 25 feet at each support level.
      b. Support levels shall be levels of tie-backs, wales, bottom of excavation, and other types of supports.

   2. Set control points in corners of existing structures and on curbs, manholes, and other improvements **as indicated on the Drawings**.

B. Provide plumb bobs with horizontal targets indicating original position of plumb bobs in

relation to shoring at control points located on shoring.

C. Perform horizontal and vertical survey and measurement of control points at least once every week and provide data to the ENGINEER and GEOR the same day it is collected.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Loosening, excavating, filling, grading, borrow, hauling, preparing original grade and subgrade, compacting in final location, wetting and drying, and operations pertaining to site grading for buildings, basins, reservoirs, boxes, roads, and other structures.
   2. Pumping and draining of excavations.
   3. Backfilling and compacting around structures.

B. Related Sections:
   1. Section 01330 - Submittal Procedures.
   2. Section 02240 - Dewatering.
   3. Section 02722 - Aggregate Base Course.
   4. Section 02976 - Subgrade Enhancement With Geotextile Fabric.
   5. Section 03300 - Cast-in-place Concrete.

1.02 REFERENCES

A. Associated General Contractors (AGC):
   1. Manual of Accident Prevention in Construction (Section 9).

B. American Society for Testing and Materials (ASTM):
   1. C 131 - Test Method for Resistance to Degradation of Small-Size Course Aggregate by Abrasion and Impact in the Los Angeles Machine.
   2. C 136 - Test Method for Sieve Analysis of Fine and Course Aggregates.
   3. D 1140 – Test Method for Determining the Amount of Material Finer than the 75µm (No. 200) Sieve in Soils by Washing.
   4. D 1556 - Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method.
   5. D 1557 - Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m).
   6. D 2419 - Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
   7. D 2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
   8. D 3017 - Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
   9. D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

C. Division of Industrial Safety (DIS).

D. Institute of Makers of Explosives (IOMOE).

E. Occupational Safety and Health Act (OSHA).

F. State of California Department of Transportation (Caltrans).

1.03 DEFINITIONS

A. Excavation: Consists of satisfactory loosening, removing, loading, transporting, depositing, and compacting in final location, wet and dry materials, necessary to be removed for purposes of construction, or as required for ditches, grading, roads, and such other purposes as are **indicated on the Drawings**.

B. Backfill Adjacent to Structure: Is backfill within volume bounded by the exterior surfaces of structure, the surface of undisturbed soil in the excavation around structure, and finish grade around structure.

C. In-Place Density of Compacted Backfill: Is density determined in accordance with ASTM D 1557, or with ASTM D 2922 and ASTM D 3017. All compaction requirements presented in this Section for in-place density are minimum requirements unless otherwise noted.

D. Maximum Density: Is density obtained in laboratory when tested in accordance with ASTM D 1557.

E. Definitions Related to Compaction of Coarse Fill:
   1. One Pass: Defined as one movement of roller over area being compacted.
   2. Measurement Of Pass Width: Measure width of pass between centers of outside tires or outside edge of roller wheel.

F. Geotechnical Engineer-of-Record (GEOR): Is the geotechnical engineer who provided geotechnical design recommendations for the project and/or who has been retained by the OWNER to provide geotechnical consultation, review of submittals and RFIs, and confirmatory/compliance observation and compaction testing services of earthwork operations during construction of the project. Also serves as the OWNER's Testing Laboratory.

G. Original Grade: Ground elevation prior to grading.

H. Subgrade: Final soil elevation prior to placement of select fill, such as aggregate base course, and trench fine grading, asphalt concrete, or concrete for foundations or other improvements.

I. Trench Backfill: Material used to backfill trenches above the pipe bedding section.

1.04 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. All Earthwork and soil preparation shall be in conformance with the project geotechnical report and as specified here in. Copies of these reports are available to the contractor prior to bidding. In the case of a conflict between this specification and the geotechnical report, the more stringent criteria between the spec and the report shall be followed unless otherwise permitted by the ENGINEER.
      a. **Project Geotechnical Report: Geotechnical Evaluation Yuba City WWTF Septage Receiving South of Burns Drive, Project Number 25-688, dated March 20, 2026**. A copy of this report is available upon request from the Engineer.
      b. **In addition, work within the City Right of way for Burns drive shall meet all City standard specs and typical details including all earthwork**

activities.

c. Additional Geotechnical reports on the same project site that can be used for reference information.
    1) None.

2. In-place use of lime treatment is not allowed.
3. Full depth reclamation, if used, shall be per the requirements of the Geotechnical Report.
4. Where mud, peat, or other soft or unstable material is encountered, remove such material and refill space with properly compacted and moisture conditioned suitable native material or aggregate base course which can be compacted with no perceptible movement under roller.
5. Obtain acceptable material from other sources if surplus or borrow materials obtained within project site do not conform to specified requirements or are not sufficient in quantity for structural backfill.
6. No extra compensation will be made for hauling of fill materials nor for water required to compact fills.
7. **Tree Roots:**
    a. **When tree roots are encountered in trench excavations, all tree roots shall be removed from the trench. If roots are too large to be removed, Contractor shall consult with the Engineer on next steps which could include adjusting pipe elevations or other means to avoid the obstruction**.
8. Structural Backfill:
    a. Material for Backfill:
        1) Unless otherwise specified or **indicated on the Drawings**, material for backfill, within 5 feet of structures, slabs, or wall shall consist of aggregate base course specified in Section 02722. Material for backfill beyond 5 feet of structures, slabs, or wall shall consist of native material or of sand, gravel, or other imported materials acceptable to the ENGINEER.
        2) Backfill material under concrete structures, under pavement, or where heavy compaction equipment, such as a pneumatic tired roller, cannot be used satisfactorily shall consist of aggregate base course, except areas **indicated on the Drawings** as controlled low strength material or concrete encasement.
        3) Backfill in any area under concrete structures, shall extend from undisturbed native soil or rock to the bottom surface of the structure.
9. Embankments and Roadway Fills:
    a. Material for Fills: Unless otherwise specified or **indicated on the Drawings**, material shall be Caltrans Class 2 aggregate base within roadways and may be surplus material from excavation for structures or other construction for embankments or, if accepted by the OWNER, and ENGINEER, borrow material excavated from source within Project site may be used for embankments.
    b. Whatever source is used, provide fill material conforming with specified requirements.
    c. Obtain acceptable material from other sources if surplus or borrow materials obtained within Project site do not conform to specified requirements or are not sufficient in quantity for construction of embankments.
10. Compacted Fills:
    a. Provide specified compaction for backfill, fill, and other earthwork.
    b. Perform confirmation tests to verify and confirm that work has complied, and is complying at all times, with requirements specified in this Section concerning initial compaction demonstration, and field quality control testing.

c. Jetting in lieu of mechanical compaction is not allowed even if referenced as an option in the geotechnical report at any location for any kind of compaction.

11. Borrow Area:
    a. No borrow area has been indicated on the Drawings.
    b. Where borrow material is required, provide such material from source selected by the CONTRACTOR, subject to acceptance by the ENGINEER, but not necessarily from within project site.
    c. Use of imported borrow shall not cause additional cost to the Contract.

1.05 SUBMITTALS

A. General: Submit in accordance with Section 01330.

B. Property Owner's Permission Agreements: Submit copy of property owner's agreements to allow placement of surplus material on their property.

C. Product Data: Submit material source, gradation, and testing data for all materials, including imported and on-site materials.

D. Excavation Plan: Submit proposed excavation plan.

E. Testing Lab: Submit CONTRACTOR's proposed testing laboratory capabilities and equipment.

F. Test Reports: Submit certified test reports of all tests specified to be performed by the CONTRACTOR. Test reports shall be signed and sealed by a registered geotechnical engineer in the state of California associated with the CONTRACTOR'S Testing Lab.

1.06 QUALITY ASSURANCE

A. Initial Compaction Demonstration:
   1. Adequacy of Compaction Equipment and Procedures: Demonstrate adequacy of compaction equipment and procedures before exceeding any of following amounts of earthwork quantities:
      a. 100 linear feet of trench backfill.
      b. 20 cubic yards of structural backfill.
      c. 100 cubic yards of embankment work.
      d. 50 cubic yards of base material.
   2. Compaction Sequence Requirements: Until specified degree of compaction on previously specified amounts of earthwork is achieved, do not perform additional earthwork of the same kind.
   3. After satisfactory conclusion of initial compaction demonstration and at any time during construction, provide confirmation tests as specified under "FIELD QUALITY CONTROL."

1.07 SEQUENCING AND SCHEDULING

A. Schedule earthwork operations to meet requirements as provided in this Section for excavation and uses of excavated material.

B. If necessary, stockpile excavated material in order to use it in specified locations.

C. Excavation and Filling: Perform excavation and filling, during construction, in manner and sequence that provides drainage at all times.

PART 2 PRODUCTS

2.01 MATERIALS

A. Water for Compacting Fills: Use water from source acceptable to ENGINEER and meeting the requirements of Section 02233.

B. Fill Materials:
   1. General:
      a. Provide sand, aggregate base course, gravel, Class 2 permeable material, crushed drain rock, suitable native material, and imported general fill, where required for fill and backfill and as noted in the geotechnical report.
      b. Obtain material for fills from cut sections or from borrow source.
      c. Provide material having maximum particle size not exceeding 3 inches and that is free of trash, lumber, debris, leaves, grass, roots, stumps, and other vegetable matter.
      d. Materials derived from processing demolished or removed asphalt concrete are not acceptable.
   2. Aggregate Base Course: As specified in Section 02722.
   3. Class 2 Permeable Material:
      a. Consist of hard, durable particles of stone or gravel, screened or crushed to the specified size and gradation.
      b. Provide free of organic matter, lumps or balls of clay, and other deleterious matter.
      c. Durability Index: Percentage of wear not greater than 40 percent when tested in accordance with ASTM C 131.
      d. Sand Equivalent: Not less than 75 when tested in accordance with ASTM D 2419.
      e. Conform to size and grade within the limits as follows when tested in accordance with ASTM C 136:

Sieve Size (Square Openings)	Percent by Weight Passing Sieve
1 inch	100
3/4 inch	90-100
3/8 inch	40-100
Number 4	25-40
Number 8	18-33
Number 30	5-15
Number 50	0-7
Number 200	0-3

4. Crushed Drain Rock:
    a. Consist of hard, durable particles of stone or gravel, screened or crushed to specified size and gradation.
    b. Free from vegetable matter, lumps or balls of clay, or other deleterious matter.
    c. Crush or waste coarse material and waste fine material as required to meet gradation requirements.
    d. Durability Index: Not less than 40 percent when tested in accordance with ASTM C 131 [and Caltrans Standard Specifications].
    e. Conform to size and grade within the limits as follows when tested in accordance with AASHTO T-27 or ASTM C 136:

Sieve Size (Square Openings)	Percent By Weight Passing Sieve
1 1/2 inch	100
1 inch	95-100
1/2 inch	25-60
Number 4	0-10
Number 8	0-5

5. Suitable Native Material:
    a. On-site, native, sound, earthen material.
    b. 3-inch maximum size.
    c. At least 90 percent of material by weight shall pass the 1 inch sieve when tested in accordance with ASTM C 136.
    d. Organic content shall not exceed 3 percent by dry unit weight.
    e. Nesting (concentration) of larger particles shall be avoided.
6. Sand:
    a. Clean, coarse, natural sand.
    b. Nonplastic when tested in accordance with ASTM D 4318.
    c. 100 percent shall pass a ½ inch screen.
    d. No more than 20 percent shall pass a Number 200 sieve when tested in accordance with ASTM D1140.
7. Clay Liner Materials:
    a. Native and/or imported clay materials which exhibit a permeability of 1×10^{-6} CM/sec when placed and compacted as specified herein and as shown on the drawings.
8. Imported General Fill:
    a. All import materials furnished under this Section shall be non-hazardous, non-corrosive and shall have a minimum resistivity of 5,000 ohm-cm and a minimum pH of 6.0 as measured by California Test 643. Chlorides shall not exceed 150 PPM and water soluble sulfates shall not exceed 1,000 PPM.
    b. Free of vegetable matter, lumps or balls of clay, and other deleterious matter.
    c. 3-inch maximum size
    d. At least 90 percent of material by weight shall passing the 1 inch sieve shall not exceed 30 when tested in accordance with ASTM C 136.
    e. Plasticity Index equal to or less than 15 when tested in accordance with ASTM

D 4318.
f. Liquid Limit less than 30 when tested in accordance with ASTM D 4318.
g. Between 8 and 40 percent of material by weight shall passing the No. 200 sieve when tested in accordance with ASTM D 1140.

9. Trench Backfill:
a. Shall consist of aggregate base course, suitable native material, or imported general fill as indicated in the geotechnical report.

C. Geotextile Fabric:
1. Geotextile shall have the minimum value when tested in accordance with the ASTM method listed below.
2. Geotextile shall be per Section 02976 Subgrade Enhancement with Geotextile Fabric.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:
1. Character and Quantity of Material:
a. Verify character and quantity of rock, gravel, sand, silt, water, and other inorganic or organic materials to be encountered in work to be performed.
b. Determine gradation and shrinkage of excavation and fill material, and suitability of material for use intended in work to be performed.
c. Determine quantity of material, and cost thereof, required for construction of excavations and fills, whether from on-site excavations, borrow areas, or imported materials. Include in cost of work to be performed.
d. Include wasting of excess material, if required, in cost of work to be performed.

3.02 PREPARATION

A. Surface Preparation:
1. Preparing Ground Surfaces for Fill or Concrete:
a. After clearing is completed, scarify entire areas which underlie fill sections or structures to a depth of 12 inches (unless permitted otherwise by the ENGINEER) and until surface is free of ruts, hummocks, and other features which would prevent uniform compaction by equipment to be used.
b. Recompact areas to density specified in "Compacted Fills" in this Section before placing of fill material or concrete.
c. Where cemented rock, cobbles, or boulders compose a large portion of foundation material underlying structures, slabs, or paved areas, it may not be advisable to scarify the top 12 inches prior to compaction. If the ENGINEER deems it advisable not to scarify existing natural ground, then moisten the native soil and compact it as specified in "Compaction of Coarse Fill" in this Section.
2. Preparing Sloped Surfaces for Fill or Foundations:
a. Foundations for Fill Having Slopes in Excess of One Vertical to Six Horizontal:
1) Bench or terrace to adequately key existing ground and fill built thereon.
b. Slopes of Original Hillsides and Old Fills: Bench minimum of 4 feet horizontally as fill is placed.
c. Provision of New Benches:
1) Start new bench wherever vertical cut of next lower bench intersects existing ground.

2) Recompact material thus cut out along with new embankment material at no additional cost to the Contract.

d. Where fill slopes are constructed, overbuild fill slope a minimum of 1 foot laterally and then trim it back to design finish grade.

3. Preparing for Structural Backfill:
   a. After completion of foundation footings and walls and other construction below the elevation of the final grades and prior to backfilling, all forms shall be removed and excavation shall be cleaned of all trash and debris.
   b. After inspection of foundation, walls, and pipes, backfill shall be placed symmetrically to prevent eccentric loading upon or against structures.
   c. To prevent damage to structures, structural backfill shall be placed with equipment which does not exceed H-20 loading, within a distance of h (h being the vertical distance from the level being compacted down to the surface on the opposite side of the wall). Outside this distance, normal compaction equipment may be used.
   d. To further protect structures from damage, only hand operated compaction equipment shall be utilized within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater.

3.03 APPLICATION

A. General:
   1. **Temporarily place excavated materials which are not required or unsuitable for fill and backfill temporarily on site at the WWTP at a location indicated on the drawings. All such material shall be off-hauled and disposed of in a legal manner by the Contractor prior to completion of the project.**
   2. Dispose of surplus material on private property only when written permission agreement is furnished by owner of property. Submit copies of such agreements.
   3. Obtain material required for fills in excess of that produced by excavation from borrow areas subject to the fill material requirements specified herein.
   4. Rocks, broken concrete, or other solid materials larger than 3 inches in greatest dimension shall not be placed in fill areas, but removed from project site at no additional cost to the Contract.
   5. Stabilization of Subgrade: Provide materials used or perform work to stabilize subgrade so it can withstand loads which may be placed upon it by CONTRACTOR's equipment.

B. Excavation:
   1. Excavations for Buildings and Structures:
      a. Dimensions and Elevations of Excavations: Provide excavations conforming to dimensions and elevations **indicated on the Drawings** for each building and structure, including trenching for adjacent piping and all work incidental thereto.
      b. Soil of Unsuitable Bearing Value: Where soil is encountered having unsuitable bearing value, ENGINEER may direct in writing that excavation be carried to elevations above or below those **indicated on the Drawings**.
      c. Unless directed by the ENGINEER, excavations shall not be carried below elevations **indicated on the Drawings**.
      d. Where excavations are made below elevations **indicated on the Drawings**, adjust elevations of excavations in accordance with the following requirements:
         1) Under Slabs: Restore to proper elevation in accordance with procedure specified for backfill in this Section.
      e. Excavation Width: Extend excavations at least 24 inches clear from walls and

footings to allow for placing and removal of forms, installation of services, and inspection. Undercutting of slopes will not be permitted.

f. Bottom of Excavations for Structures: Consist of native material with top 12 inches compacted to a minimum of 95% compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at a minimum of 2% over optimum moisture content for clayey soils. Graded to conform to outside limits of structures as **indicated on the Drawings**, except where otherwise **indicated on the Drawings** or specified.

g. Difficulty of Excavation: No extra compensation will be made for removal of rock or any other material due to difficulty of excavation.

h. Location of Structures on Different Substrates: Where structure will be located partially on fill and partially on undisturbed or natural material, over-excavate entire area to depth of 12 inches below elevations **indicated on the Drawings** and recompact to a minimum of 95% compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at a minimum of 2% over optimum moisture content for clayey soils.

2. Excavation of Lined Channels:
   a. Excavations in Open Cut for Lined Channels: May be made so as to place concrete directly against excavated surfaces providing faces of excavations are:
      1) Firm and stable.
      2) Will **stand or can be made to** stand without sloughing.
      3) At all points outside concrete lines **indicated on the Drawings**.
   b. Excavations to Provide Subgrade for Lined Channel or Subdrainage Material:
      1) Excavate to lines **indicated on the Drawings**.
3. Excavation of Unlined Channels and Basins:
   a. Excavation for Unlined Channels and Basins: Same as specified in Subparagraph 3.03B2, titled "Excavation of Lined Channels" in this Section, except for requirements specified for excavation tolerances.
   b. Regardless of tolerances specified, perform excavation and grading so that finished surfaces are in uniform planes with no abrupt breaks in surface.
4. Excavation of Ditches and Gutters:
   a. Cutting: Cut ditches and gutters accurately to cross sections and grades **indicated on the Drawings**.
   b. Excavation: Take care not to excavate ditches and gutters below grades **indicated on the Drawings**.
   c. Over Excavation: Backfill excessive ditch and gutter excavation to grade with suitable thoroughly compacted material to form adequate gutter paving.
   d. Depositing of Material Adjacent to Ditches: Do not deposit any material within three feet of edge of ditch unless otherwise **indicated on the Drawings**.
5. Necessary Over Excavation:
   a. General:
      1) Where it becomes necessary to excavate beyond normal lines of excavation in order to remove boulders or other interfering objects, backfill voids remaining after removal as specified in Backfilling of Voids, or as acceptable to the ENGINEER.
      2) Perform necessary excavation beyond normal lines as specified above and backfill such voids.
   b. Backfilling of Voids:
      1) Fill voids with suitable material acceptable to the ENGINEER, placed in manner and to same uniform density as surrounding material.
      2) With acceptance of the ENGINEER, concrete of same mix as used in concrete channel may be used.

C. Compaction:

1. Compacted Fills:
    a. Lines and Grades:
        1) Construct fills, embankments, and backfills, designated herein as fills, at locations and to lines and grades **indicated on the Drawings**.
2. Borrow sources are not available within project (plant) site.
    a. Compacted Fill Shape and Sections: Provide completed fill that corresponds to shape of typical sections **indicated on the Drawings** or that meets requirements for particular case.
    b. Preparation of Areas Designated to Receive Fill Material: Scarify to minimum depth of 12 inches, unless otherwise **indicated on the Drawings**, and recompact to density of fill material as specified in following Article.
    c. Fills and Backfills and Upper 12 Inches in Cuts: Compact to percentage of maximum density as follows:
        1) Portion of fills/backfills consisting of aggregate base course: compact entire fill/backfill to a minimum of 95% compaction at near optimum moisture content.
        2) Compact upper 12 inches of original grade to a minimum of 95% compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at least 2% over optimum moisture content for clayey soils. Compact fill above original grade to a minimum of 90% compaction (95% for aggregate base course) at near optimum moisture content for granular soils and to a minimum of 90% compaction at least 2% over optimum moisture content for clayey soils.
        3) Overexcavation of foundations for at grade structures: compact backfill for excavations resulting from the removal of peat or soils containing more than 3 percent organic content by dry unit weight below at grade structures to a minimum of 95% compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at least 2% over optimum moisture content for clayey soils
        4) Under present and future structures, storage areas, and sidewalks not exposed to vehicular traffic: compact to a minimum of 95% compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at a minimum of 2% over optimum moisture content for clayey soils.
        5) Under roadways, parking, curbs and gutters, and sidewalks and concrete exposed to vehicular traffic: compact aggregate base course and full depth reclamation section (if used) to a minimum of 95% compaction at near optimum moisture content. Compact upper 12 inches of subgrade soils below aggregate base course layer to a minimum of 95% compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at a minimum of 2% over optimum moisture content for clayey soils.
        6) Compacted embankments: Compact to a minimum of 95% compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at a minimum of 2% over optimum moisture content for clayey soils.
        7) Intermediate dikes and sludge bed sides: Compact to a minimum of 90% at near optimum moisture content for granular soils and at least 2% above over optimum moisture content for clayey soils.
        8) Demolition areas: Compact to a minimum of 90% at near optimum moisture content for granular soils and at least 2% above over optimum moisture content for clayey soils.
        9) Where fills/backfills are greater than 7 feet in depth below design finish grade, the zone below a depth of 7 feet: compact to a minimum of 95%

compaction at near optimum moisture content for granular soils and to a minimum of 93% compaction at least 2% above over optimum moisture content for clayey soils.

10) All items listed above shall be moisture conditioned to at least 2% over optimum moisture content for clayey soils and near optimum moisture content for granular soils.

d. Placing Compacted Fills:

1) Placement: Place loose material in successive layers that do not exceed 8 inches in depth after compaction.

2) Moisture Content: Bring each layer to at least 2 percentage points above optimum moisture content for clayey soils and near optimum moisture content for granular soils for maximum density before compaction by rolling. If used, the full depth reclamation section shall be moisture conditioned to at least 3% above the optimum moisture content during mixing and re-mixing and shall have a minimum moisture content of near optimum moisture content after it is allowed to cure.

3) Defective Compacted Fills: Remove and recompact.

3. Compaction of Coarse Fill:

a. When materials are coarsely graded such that performance of field density tests are not possible using standard compaction testing equipment:

1) Placement and Compaction: Place material in lifts so as to obtain compacted thickness of 6 inches and roll with pneumatic roller or power roller.

2) Moisture Content: Provide moisture content of fraction of material passing 3/4 inch sieve within plus or minus 2.0% of optimum moisture as determined in accordance with ASTM D 1557, Method C.

4. Compaction of Embankments and Roadway Fills:

a. Construction and Compaction of Fills:

1) Construct in layers of depths specified above.

2) Compact by rolling with power rollers, tamping rollers, vibrating rollers or pneumatic tire rollers.

3) Moisture Content:

5. Compaction of Loose Fill:

a. In Disposal Areas: In disposal areas **indicated on the Drawings**, bring fill up essentially in level layer over entire spoil area indicated.

1) Continue filling spoil area until disposal of surplus excavated material is completed.

b. Clods or Hard Lumps of Earth of 3 Inches in Greatest Dimension: Break up before compacting material in embankments, except as provided as follows:

1) When fill material includes large rocky material or hard lumps, such as hardpan or cemented gravel which cannot be broken readily, distribute such material throughout fill.

2) Place sufficient earth or other fine material around larger material as it is deposited so as to fill interstices and produce dense, compact fill. Do not place such material within two feet of finish grade of fill.

c. Compaction:

1) Uniformly distribute travel of vehicles over fill area as required to provide uniformly compacted surface.

3.04 FIELD QUALITY CONTROL

A. Tests:

1. Confirmation Tests:

a. CONTRACTOR's Responsibilities:

1) Accomplish specified compaction for backfill, fill, and other earthwork.
2) Control operations by confirmation tests to verify that compaction work complies, and is complying at all times, with requirements specified in this Section concerning compaction, control, and testing.
3) Cost of Confirmation Tests: **Paid for by the OWNER.**
4) Qualifications of OWNER's Testing Laboratory: Perform confirmation testing by soils testing laboratory acceptable to the ENGINEER.
5) Copies of Confirmation Test Reports: Submit promptly to the ENGINEER.

b. Frequency of Confirmation Testing:
1) Perform testing not less than as follows:
a) Structural Backfill: One every 20 cubic yards of backfilled materials.
b) In embankment or fill: One every 100 cubic yards of backfilled materials.
c) Aggregate Base Materials: One every 50 cubic yards of material placed.

2. Compliance Tests:
a. Frequency of Testing: Periodic compliance tests will be made by the ENGINEER to verify that compaction is meeting requirements previously specified.
b. Coordination with ENGINEERs' Testing: Remove overburden above level at which the ENGINEER wishes to test and backfill and recompact excavation after testing is completed.
c. If compaction fails to meet specified requirements, perform remedial work by one of the following methods:
1) Remove and replace backfill at proper density.
2) Bring density up to specified level by other means acceptable to the ENGINEER.
d. Retesting:
1) Costs of Retesting: Costs of retesting required to confirm and verify that remedial work has brought compaction within specified requirements shall be borne by the OWNER.
2) OWNER's Confirmation Tests During Performance of Remedial Work: twice as frequent as original confirmation testing.

B. Tolerances:
1. Finish Grading of Excavations, Backfill and Fills:
a. Perform fine grading under concrete structures such that finished surfaces are never above established grade or approved cross section and are never more than 0.10 feet below.
b. Provide finish surface areas outside of structures that are not more than 0.10 feet above or below established grade or accepted cross section.
2. Of Excavation of Unlined Channels and Basins:
a. In Both Cut and Fill, and Levee and Access Road Side Slopes in Cut: Vertical tolerance of none above and 3 inches below specified grade will be allowed on bottom and side slopes.
b. On Top Surface of Levee and Access Road in Both Cut and Fill, and Levee and Access Road Side Slopes in Fill: Vertical tolerance of none below and 3 inches above specified grade will be allowed.
3. Of Areas Which Are Not under Structures, Concrete, Asphalt, Roads, Pavements, Walks, Dikes and Similar Type Items:
a. Provide finish graded surfaces of either undisturbed natural soil, or cohesive material not less than 6 inches deep.
b. Intent of preceding is to avoid sandy or gravelly areas.

4. Finished Grading Surfaces:
    a. Reasonably smooth, compacted, and free from irregular surface changes.
    b. Provide degree of finish that is ordinarily obtainable from blade grader operations, except as otherwise specified.
    c. Uniformly grade areas which are not under concrete.
    d. Finish gutters and ditches so that they drain readily.

3.05 ADJUSTING

A. Finish Grades of Excavations, Backfilling and Fill:
    1. Repair and reestablish grades to required elevations and slopes due to any settlement or washing way that may occur from action of the elements or any other cause prior to final acceptance.

3.06 PROTECTION

A. Finish Grades of Excavations, Backfilling and Fill:
    1. Protect newly graded areas from action of the elements.

B. Ditches and Gutters:
    1. Maintain ditches and gutters excavated free from detrimental quantities of debris that might inhibit drainage until final acceptance.

END OF SECTION

SECTION 02312

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Controlled low strength material (CLSM).

B. Related Sections:
   1. Section 03300 - Cast-in-place Concrete.

1.02 REFERENCES

A. American Society of Testing and Materials (ASTM):
   1. C 31 - Practice for Making and Curing Concrete Test Specimens in The Field.
   2. C 33 - Specification for Concrete Aggregate.
   3. C 39 – Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   4. C 143 - Test Method for Slump of Hydraulic Cement Concrete.
   5. C 231 - Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
   6. C 260 - Specification for Air-Entraining Admixtures for Concrete.
   7. C 618 - Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.
   8. D 1557 – Standard Test Methods of Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3(2,700 kN-m/m3))

1.03 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. Total Calculated Air Content: Not be less than 8.0 percent nor greater than 12.0 percent.
   2. Minimum Unconfined Compressive Strength: Not less than 50 pounds per square inch.
   3. Maximum Unconfined Compressive Strength: Not greater than 150 pounds per square inch, measured at 28 days.
   4. Wet Density: No greater than 132 pounds per cubic foot.

1.04 SUBMITTALS

A. Shop Drawings: A suggested mix design is as follows:
   1. Submit a mix design which conforms to the density and strength criteria established herein.

Material	Weight	Specific Gravity	Absolute Volume Cubic Foot
Cement	**30 pounds**	**3.15**	**0.15**
Fly Ash	**300 pounds**	**2.30**	**2.09**
Water	**283 pounds**	**1.00**	**4.54**
Coarse Aggregate	**1,465 pounds**	**2.68**	**8.76**
Fine Aggregate	**1,465 pounds**	**2.68**	**8.76**
Admixture	**4-6 ounces**	**-**	**2.70**
TOTAL	**3,543 pounds**	**-**	**27.00**

B. Samples:
1. Submit Mix Proportions and Trial Batch Test Results for Acceptance:
   a. Prepare the trial batches using the specified cement and aggregates proposed to be used for the work.
   b. Prepare sufficient quantity of trial batches to determine slump, workability, consistency, and to provide sufficient test cylinders.
2. Test Cylinders: Prepare test cylinders in accordance with ASTM C 31 with the Following Exception:
   a. Fill the concrete test cylinders to overflowing and tap sides lightly to settle the mix.
   b. Do not rod the concrete mix and strike off the excess material.
   c. Place the cylinders in a safe location away from the construction activities. Keep the cylinders moist by covering with wet burlap, or equivalent. Do not sprinkle water directly on the cylinders.
   d. After 2 days, place the cylinders in a protective container for transport to the laboratory for testing. The concrete test cylinders are fragile and shall be handled carefully. The container may be a box with a styrofoam or similar lining that will limit the jarring and bumping of the cylinders.
3. Submit data for each of the test cylinders.
   a. Identify the data for the mix and slump for each of the test cylinders. Determine slump in accordance with ASTM C 143 with the following exceptions:
      1) Do not rod the concrete material.
   b. Place in the cone in one semi-continuous filling operation, slightly overfilled, tapped lightly and struck off, then measure slump and record.
   c. Use a slump of the placed material greater than 9 inches, and sufficient to allow the material to flow freely during placement.
      1) After trial batch testing and acceptance, maintain slump developed during testing during construction at all times plus or minus 1 inch.
4. Compression test 8 test cylinders.
   a. Test 4 test cylinders at 3 days and 4 at 28 days in accordance with ASTM C 39 with the following exception:
      1) Place test cylinders in a moist curing room prior to compression testing. Exercise caution in moving and transporting the cylinders since they are fragile and will withstand only minimal bumping, banging, or jolting

without damage.
2) Do not remove the test cylinder mold until the cylinder is to be capped and tested.

5. The cylinders ordinarily may be capped with standard sulfur compound or neoprene pads.
   a. Perform the capping carefully to prevent premature fractures.
   b. Use neoprene pads a minimum of 1/2 inch thick, and 1/2 inch larger in diameter than the test cylinders.
   c. Do not perform initial compression test until the cylinders reach a minimum age of 3 days.
6. The compression strength of the four test cylinders tested at 28 days shall be equal to or greater than the minimum required compression strength but not to exceed maximum compression strength.
7. If the trial batch tests do not meet the Specifications for strength or density, change the mix design proportions, and make additional trial batches and tests until an acceptable trial batch is produced that meets the Specifications.
   a. All the test batches and acceptability of materials shall be paid by the CONTRACTOR.
   b. After acceptance, do not change the mix design without submitting a new mix design and test information.

PART 2 PRODUCTS

2.01 MATERIALS

A. Controlled Low Strength Material Components:
   1. Type II low alkali portland cement as specified herein.
   2. Class F fly ash conforming to ASTM C 618.
   3. Water as specified in Section 03300.
   4. Air entraining admixture conforming to ASTM C 260.
   5. Fine Aggregate: Concrete sand, but need not conform to ASTM C 33. No more than 12 percent of aggregate shall pass a No. 200 sieve, and no plastic fines shall be present.
   6. Coarse Aggregate: Pea gravel no larger than 3/8 inch.

PART 3 EXECUTION

3.01 INSTALLATION

A. General:
   1. Prior to placement, soils located below controlled low strength material placement shall be scarified to a depth of 8 inches, uniform moisture conditioned to or above the optimum moisture content, and compacted to a minimum of 95 percent relative compaction in accordance with ASTM D 1557.
   2. Place controlled low strength material by any method which preserves the quality of the material in terms of compressive strength and density.
      a. Limit lift heights of CLSM placed against structures and other facilities that could be damaged due to the pressure from the CLSM, to the lesser of 3 feet or the lift height indicated on the Drawings. Do not place another lift of CLSM until the last lift of CLSM has set and gained sufficient strength to prevent lateral load due to the weight of the next lift of CLSM.
      b. The basic requirement for placement equipment and placement methods is

the maintenance of its fluid properties.

c. Transport and place material so that it flows easily around, beneath or through walls, pipes, or other structures.

d. Use a slump of the placed material greater than 9 inches, and sufficient to allow the material to flow freely during placement. After trial batch testing and acceptance, maintain slump developed during testing during construction at all times within plus or minus 1 inch.

e. Use a slump, consistency, workability, flow characteristics, and pumpability (where required) such that when placed, the material is self-compacting, self-densifying, and has sufficient plasticity that compaction or mechanical vibration is not required.

3.02 FIELD QUALITY CONTROL

A. General: Make provisions for and furnish all material for the test specimens, and provide manual assistance to assist the ENGINEER in preparing said specimens. Be responsible for the care of and providing curing condition for the test specimens.

B. Tests by OWNER:

1. During the progress of construction, the OWNER will have tests made to determine whether the controlled low strength material, as being produced, complies with the requirements specified hereinbefore:
   a. These tests will be made in accordance with ASTM C 31, and ASTM C 39 with exceptions as given herein.
   b. Test cylinders will be made and delivered to the laboratory by the ENGINEER and the testing expense will be borne by the OWNER.
2. Not less than four cylinder specimens will be tested for each 150 cubic yards of controlled low strength materials and not less than three specimens for each half day's placement. One cylinder will be tested at 3 days and 2 at 28 days and one shall be held as reserve.
3. The OWNER will test the air content of the controlled low strength material by volume by measurement. Test will be made immediately after discharge from the mixer in accordance with ASTM C 231.

C. Tests by CONTRACTOR:

1. Test the slump of controlled low strength material using a slump cone in accordance with ASTM C 143 with exceptions as given herein.
   a. Test the slump at the beginning of each placement, as often as necessary to keep the slump within the specified range, and when requested to do so by the ENGINEER.

END OF SECTION

SECTION 02318

TRENCHING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Trench excavation, fine grading, pipe bedding, backfilling, and compaction for the following, including requirements for ditch crossings:
   1. Pipe and electrical conduits.
   2. Manholes, valves, or other accessories.
   3. Potable water pipe appurtenances.

B. Related Sections:
   1. Section 01734 - Work Within Public Right-of-Way: Provision of excavation, backfilling, and compacting of trenches in public right-of-way.
   2. Section 02260 - Excavation Support and Protection.
   3. Section 02722 - Aggregate Base Course.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. C 131 - Test Method for Resistance to Degradation of Small-Size Course Aggregate by Abrasion and Impact in the Los Angeles Machine.
   2. C 136 - Test Method for Sieve Analysis of Fine and Course Aggregates.
   3. D 1140 – Test Method for Determining the Amount of Material Finer than the 75µm (No. 200) Sieve in Soils by Washing.
   4. D 1556 - Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method.
   5. D 1557 - Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m).
   6. D 2419 - Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
   7. D 2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
   8. D 3017 - Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
   9. D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.03 SUBMITTALS

A. Products Data: For all proposed bedding and backfill materials.
   1. Material source.
   2. Gradation.
   3. Testing data.

1.04 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. All Earthwork and soil preparation shall be in conformance with the project geotechnical report and as specified here in. Copies of these reports are available at the contractor prior to bidding. In the case of a conflict between this specification and the geotechnical report, the more stringent criteria between the

spec and the report shall be followed.

a. Project Geotechnical Report: Geotechnical Evaluation Yuba City WWTF Septage Receiving South of Burns Drive, Project Number 25-688, dated March 20, 2026.

1.05 DEFINITIONS

A. Geotechnical Engineer-of-Record (GEOR): Is the geotechnical engineer who provided geotechnical design recommendations for the project and/or who has been retained by the OWNER to provide geotechnical consultation, review of submittals and RFIs, and confirmatory/compliance observation and compaction testing services of earthwork operations during construction of the project. Also serves as the OWNER's Testing Laboratory.

PART 2 PRODUCTS

2.01 MATERIALS

A. General:
   1. Provide material having maximum particle size not exceeding 3 inches and that is free of leaves, grass, roots, stumps, and other vegetable matter.
   2. Materials derived from processing demolished or removed asphalt concrete are not acceptable.

B. Aggregate Base Course: As specified in Section 02722.

C. Suitable Native Material:
   1. On-site, native, sound, earthen material.
   2. 3-inch maximum size.
   3. At least 90 percent of material by weight shall pass the 1 inch sieve when tested in accordance with ASTM C 136.
   4. Shall contain not more than 3 percent organic content by dry unit weight.
   5. Nesting (concentration) of larger particles shall be avoided.

D. Sand:
   1. Clean, coarse, natural sand.
   2. Nonplastic when tested in accordance with ASTM D 4318.
   3. 100 percent shall pass a 1/2 inch screen.
   4. No more than 20 percent shall pass a Number 200 sieve when tested in accordance with ASTM D 1140.

PART 3 EXECUTION

3.01 PREPARATION

A. General:
   1. Before laying pipes or electrical conduits in fill, place fill and compact it to not less than 2 feet above top of pipe or conduit.
   2. After placing and compacting fill, excavate through fill and fine grade as required in this Section.

B. Protection: Stabilize excavation as specified in Section 02260.

3.02 INSTALLATION

A. Trench Excavation:
   1. General Requirements:
      a. If, because of soil conditions, safety requirements or other reasons, trench width at top of pipe is increased beyond width specified in this Section, upgrade laying conditions or install stronger pipe designed in conformance with Specifications for increased trench width, without additional cost.
      b. Pipe and Electrical Conduits:
         1) Lay pipe and electrical conduits in open trench.
         2) If bottom of excavation is found to consist of rock or any material that by reason of its hardness cannot be excavated to provide uniform bearing surface, remove such rock or other material to a depth of not less than 4 inches below bottom of pipe and refill to grade with aggregate base course material or sand placed at uniform density, with minimum possible compaction, at no additional cost.
         3) If bottom of excavation is found to consist of soft or unstable material which is incapable of properly supporting pipe, remove such material to a depth and for the length required, as determined by the ENGINEER, and then refill trench to grade with aggregate base course or sand, compacted to 90 percent of maximum density.
      c. Trench Widths:
         1) Minimum Clear Width of Trench for Pipe 4 Inches in Diameter and over (Measured at Top of Pipe): Not less than outside diameter of pipe plus 18 inches.
         2) Maximum Clear Width of Trench for Pipe (Measured at Top of Pipe):
            a) For Pipe Sizes 4 Inches to and Including 24 Inches: Not to exceed outside diameter of pipe plus 24 inches.
         3) Maximum Clear Width of Trench for Pipe (Measured at Top of Pipe):
            a) For Pipe Sizes Larger than 24 Inches: Not to exceed outside diameter of pipe plus 36 inches.
      d. For Manholes, Valves, or Other Accessories:
         1) Provide excavations sufficient to leave at least 12 inches clear between their outer surfaces and embankment or shoring which may be used to hold banks and protect them.
         2) Do not backfill with earth under manholes, vaults, tanks, or valves.
         3) Fill any unauthorized excess excavation below elevation **indicated on the Drawings** for foundation of any structure with sand, aggregate base course material, bedding material, or concrete at no additional cost.
         4) Backfilling of Manhole Excavation: Conform to backfilling requirements as specified for trenches in this Section.
      e. Potable Water Pipe Appurtenances:
         1) Lay in trenches separate from those used for sewers.
         2) Unless otherwise specified or **indicated on the Drawings**, lay in trenches having cover of not less than 3 feet below surface of ground and located at distance of not less than 10 feet from any parallel sewer trench.
      f. At Road Crossings or Existing Driveways:
         1) Make provision for trench crossings at these points, either by means of backfills, tunnels, or temporary bridges.
      g. Tree Roots and Adjacent Trees and Vegetation:
         1) When tree roots are encountered in trench excavations, all tree roots shall be removed from the trench. If roots are too large to be removed, Contractor shall consult with the Engineer on next steps

which could include adjusting pipe elevations or other means to avoid the obstruction.

2) Protect all adjacent trees and vegetation from damage whenever possible. Review all tree cutting or removal with the Owner prior to any tree or vegetation removal.

B. Trench Fine Grading:
   1. For Pipe Placement:
      a. Overexcavate bottom of trench by at least 4 inches, or 1/12 outside diameter of pipe, whichever is greater.
      b. Fill overcut with bedding material specified herein, and fine graded as specified above.
      c. Place bedding material at uniform density, with minimum possible compaction.
      d. Where trench excavation is below grade of trench fine grading, restore trench bottom to proper grade by backfilling and compacting backfill to to a minimum of 95% percent compaction at near optimum moisture content for granular soils and to a minimum of 93% percent compaction at a minimum of 2% percent over optimum moisture content for clayey soils., at no additional cost. Use bedding material as specified in this Section.
   2. Bell or Coupling Holes:
      a. Dig holes after trench bottom has been graded.
      b. Provide holes of sufficient width to provide ample room for grouting, banding, or welding.
      c. Excavate holes only as necessary in making joints and to ensure that pipe rests upon prepared trench bottom and not supported by any portion of the joint.
   3. Depressions for Joints, Other than Bell-and-spigot:
      a. Make in accordance with recommendations of joint manufacturer for particular joint used.

C. Pipe Bedding:
   1. After Pipe Laid:
      a. Place bedding material under and around pipe to level even with spring line of pipe, and compact to 90 percent of maximum density near optimum moisture content.
      b. Fill section of trench from spring line to 12 inches above top of pipe with bedding material and mechanically compact to 90 percent of maximum density near optimum moisture content.
   2. Pipe Displacement:
      a. Take necessary precautions in placement and compaction of bedding material to prevent displacement of piping.
      b. In event there is movement or floating, re-excavate re-lay, and backfill the pipe.
   3. Consolidation:
      a. Utilize vibratory and other mechanical compaction equipment. Flooding and pooling, or jetting methods are <u>not</u> acceptable.

D. Trench Backfill:
   1. Place and compact backfill in accordance with following requirements and Section 01734 (whichever is greater):
      a. From 12 inches above top of pipe to natural surface level.
      b. Finish grade **<u>indicated on the Drawings</u>** as follows:
         1) Backfill for Trench Cuts Across Roadways and Paved Streets:
            a) Backfill trench up to within 2 feet of finish grade with suitable

material per the project geotechnical report compacted to 90 percent of maximum density at least 2 percent over optimum moisture content for clayey soils and near optimum moisture content for granular soils.

b) Then backfill from 24 inches below finish grade to finish grade, or to underside of specified aggregate base course material as **indicated on the Drawings**, or to underside of specified pavement replacement with native material, aggregate base course material, or select material compacted to a minimum of 95% percent compaction at near optimum moisture content for granular soils and to a minimum of 93% percent compaction at a minimum of 2% percent over optimum moisture content for clayey soils.

c) Trench Backfill for Trench Cuts in Areas Outside the Improved Section of Roadways and in Open Country: Backfill trench from 12 i**nches above top of pipe t**o finish grade with native material compacted to 90 percent of maximum density at least 2 percent over optimum moisture content for clayey soils and near optimum moisture content for granular soils.

2) Trench Backfill for Longitudinal Trench Cuts in Roadways, Paved Areas, and Storage Areas:

a) Backfill trench up to within 2 feet of finish grade with suitable material per the project geotechnical report compacted to 90 percent of maximum density at least 2 percent over optimum moisture content for clayey soils and near optimum moisture content for granular soils.

b) Then backfill from 24 inches below finish grade to finish grade, or to underside of specified aggregate base course material as **indicated on the Drawings**, or to underside of specified pavement replacement with native material, aggregate base course material, or select material compacted to a minimum of 95% percent compaction at near optimum moisture content for granular soils and to a minimum of 93% percent compaction at a minimum of 2% percent over optimum moisture content for clayey soils.

c) Trench Backfill for Trench Cuts in Areas Outside the Improved Section of Roadways and in Open Country: Backfill trench from 12 i**nches above top of pipe t**o finish grade with native material compacted to 90 percent of maximum density at least 2 percent over optimum moisture content for clayey soils and near optimum moisture content for granular soils.

c. Trench Backfill Through Earth Slopes or Embankments Supporting Structures, Through Structural Fill, or Adjacent to and/or Under Structures: Backfill trench from 12 inches above top of pipe to finish grade with suitable native material compacted to a minimum of 95% percent compaction at near optimum moisture content for granular soils and to a minimum of 93% percent compaction at a minimum of 2% percent over optimum moisture content for clayey soils.

d. Existing Conditions: Where existing underground pipes or conduits larger than 3 inches in diameter cross trenches above new work:

1) Backfill from bottom of trench to spring line of intersecting pipe or conduit with aggregate base course material compacted to 90 percent of maximum density near optimum moisture content when tested in accordance with ASTM D 1557 or ASTM D 2922.

2) Extend aggregate base course material 2 feet on either side of intersecting pipe or conduit to ensure that material remains in place while other backfill is placed.

E. Compacting Native Material:
1. Assure that native material, when used as previously specified, is capable of being compacted to degree specified.
2. If native material cannot be compacted to density as previously specified, remove and dispose of material whether it has been placed in trench as backfill or not, and utilize other backfill material from another source acceptable to the ENGINEER.

3.03 FIELD QUALITY CONTROL

A. Tests:
1. Confirmation Tests:
a. Contractor's Responsibilities:
1) Accomplish specified compaction of trench backfill.
2) Control operations by confirmation tests to verify and confirm that compaction work complies, and is complying at all times, with requirements specified in this Section concerning compaction, control, and testing.
3) Cost of Confirmation Tests: **Paid for by the OWNER.**
4) Qualifications of OWNER's Testing Laboratory: Provide lab certification. Perform confirmation testing by soils testing laboratory acceptable to the GEOR.
5) Copies of Confirmation Test Reports: Submit promptly to the ENGINEER.
b. Frequency of Confirmation Testing:
1) Perform testing not less than as follows:
a) For Trenches: At each test location include tests for each type or class of backfill from bedding to finish grade.
b) In Open Fields: 2 every 1,000 linear feet.
c) Along Dirt or Gravel Road or off Traveled Right-of-way: Two every 500 linear feet.
d) Crossing Paved Roads: 2 locations along each crossing.
e) Under Pavement Cuts or Within 2 Feet of Pavement Edges: 1 location every 200 linear feet.
2. Compliance Tests:
a. Frequency of Testing: Periodic compliance tests will be made by the ENGINEER to verify that compaction is meeting requirements previously specified.
b. For Tests in Water Settled Backfill: Remove overburden above level at which the ENGINEER wishes to test. Backfill and recompact excavation after testing is completed.
c. If Compaction Fails to Meet Specified Requirements: Perform remedial work by one of the following methods:
1) Remove and replace backfill at proper density.
2) Bring density up to specified level by other means acceptable to the ENGINEER.
d. Retesting:
1) Costs of Retesting: Costs of retesting required to confirm and verify that remedial work has brought compaction within specified requirements shall be borne by the OWNER.
2) Contractor's Confirmation Tests During Performance of Remedial Work:

a) Performance: Perform tests in manner acceptable to the ENGINEER.
b) Frequency: Double amount specified for initial confirmation tests.

3. Water Testing Pipe:
   a. After Bedding the Pipe, CONTRACTOR Has the Following Option To:
      1) Water-test pipe.
      2) Backfill to surface, at his own risk, before water-testing pipe.
   b. If pipe does not pass test, uncover pipe, locate leaks, repair and retest, repeating until pipe section under test passes.

3.04 SCHEDULES

A. Bedding Materials: Bedding materials shall be as listed in the project geotechnical report. For situations not listed in the project geotechnical report, use the following schedule of bedding materials.
   1. For Pipe less than 16 Inch Nominal Size: Except as otherwise specified, use sand or aggregate base course.
   2. For Pipe from 16 Inch to 48 Inch Nominal Size: Except as otherwise specified, use sand or aggregate base course.
   3. For Pipe over 48 Inches: Same as specified in subparagraph 3.04A1.
   4. For Polyvinyl Chloride or Other Plastic Pipe less than 2 Inches in Diameter: Sand.

END OF SECTION

SECTION 02360

SOIL TREATMENT

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Soil treatment for control of unwanted plant life.

1.02 SUBMITTALS

A. Product Data: Include for each material to be used, composition by percentage, dilution schedule, rate and volume calculations, intended application rate; current EPA-approved labels and Material Safety Data Sheets for each product used.

B. Test Reports: Indicate regulatory agency approval reports when required.

C. Manufacturer's Instructions: Complete handling, mixing, application, cleanup, and safety instructions.

D. Certificate of Treatment: Indicate materials and quantities used, and times of application.

1.03 QUALITY ASSURANCE

A. Qualifications of Applicator: Licensed applicator in the State where project is located.

1.04 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Do not apply treatment materials when soil or fill is excessively wet in order to avoid surface flow of material from application site.

1.05 SEQUENCING AND SCHEDULING

A. Notification of Treatment: Notify ENGINEER in advance so that ENGINEER may be present during application.

PART 2 PRODUCTS

2.01 MATERIALS

A. Vegetation Control:
   1. Soil Sterilization Type. Manufacturers: One of the following or equal:
      a. DuPont, Oust.
      b. Drexel Chemical Corp.'s, Diuron 4L.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that soil is unfrozen, sufficiently dry to absorb soil treatment materials and ready to receive treatment in accordance with manufacturer’s instructions.

B. Verify final grading is complete.

3.02 APPLICATION

A. Vegetation Control:
   1. Provide vegetation control material for unwanted plant life under structures, trenches, sidewalks, and pavements.
   2. Apply vegetation control material in accordance with manufacturer's installation instructions.
   3. Do not allow soil treatment materials to contact areas not designated for treatment.

B. Prevent spillage and contact by wind-carried material.

C. Re-treat disturbed treated soil with same treatment materials and application as original treatment.

3.03 PROTECTION OF FINISHED WORK

A. Do not permit soil grading or surface disruption over treated work.

END OF SECTION

SECTION 02622

FILTER FABRIC FOR DRAINS AND UNDERDRAINS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Nonwoven Engineering Fabrics (Geotextile) for drains and underdrains.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. D 3776 - Test Methods for Mass per Unit Area (Weight) of Woven Fabric.
   2. D 4491 - Test Methods for Water Permeability of Geotextiles by Permittivity.
   3. D 4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.

1.03 DEFINITIONS

A. Filter Fabric for Drains and Underdrains: Nonwoven filter fabric manufactured from polyester, nylon, or polypropylene material, or any combination thereof.

1.04 PROJECT CONDITIONS

A. Take field measurements to determine the exact lengths and dimensions of the surfaces to receive the fabric.

1.05 SUBMITTALS

A. Product Data.

B. Samples.

C. Quality Control Submittals:
   1. Certificates of Compliance.
   2. Manufacturer's Instructions.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection:
   1. Furnish engineering fabrics in protective covers capable of protecting the fabric from ultraviolet rays, abrasion, and water.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. One of the Following or Equal:
   1. Amoco, Style 4550.
   2. Nicolon, Mirafi 140NC.

2.02 MATERIAL REQUIREMENTS

A. Physical Properties: Meet the following minimum requirements.

Property[1]	Test Method	Requirements[1]
Weight, minimum	**ASTM D 3776**	**4.0 ounces per square yard**
Grab tensile strength	**ASTM D 4632**	**120 pounds**
Grab tensile elongation	**ASTM D 4632**	**50 percent**
Toughness, minimum		**6,500 pounds**
Permitivity, minimum	**ASTM D 4491**	**1.5 per second**

(1) Minimum average roll values.

PART 3 EXECUTION

3.01 PREPARATION

A. Surface Preparation: During grading operations, take care not to disturb or scarify the subgrade. This may require use of lightweight dozers for low strength soils such as saturated, cohesionless, or low cohesion soils. Recompact if subgrade is scarified.

B. Prior to placement of fabric; prepare surface to smooth conditions free of debris, depressions, or obstructions which may damage the fabric.

3.02 INSTALLATION

A. Follow manufacturer's installation instructions and as complimented herein.

B. Place the fabric smoothly without folds or wrinkles.

C. Use special care when placing the filter fabric in contact with the soil so that no void spaces occur between the filter fabric and the prepared surface.

D. Overlap the filter fabric sheets according to manufacturer's installation.

E. Place drainage aggregate on the filter fabric as specified.

3.03 FIELD QUALITY CONTROL

A. Inspection: Before covering, the conditions of the fabric will be observed by the ENGINEER to determine that no holes or rips exist in the fabric. Repair all such occurrences by placing a new layer of fabric extending beyond the defect in all directions a distance equal to the minimum overlap required for adjacent rolls.

END OF SECTION

SECTION 02722

AGGREGATE BASE COURSE

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Aggregate base course.

B. Related Sections:
   1. Section 02300 - Earthwork.

1.02 REFERENCES

A. State of California Department of Transportation:
   1. CalTrans - 2015 Standard Specification.

B. American Society of Testing and Materials (ASTM):
   1. C 117 - Test Method for Material Finer than 75 µM (Number 200) Sieve in Mineral Aggregate by Washing.
   2. C 136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
   3. D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.03 SUBMITTALS

A. Product Data:
   1. Source, gradation, and testing data for aggregate base course.

B. Quality Control:
   1. Test Reports: Reports for tests required by Sections of 2015 CalTrans Standard Specifications.
   2. Certificates of Compliance: Certificates as required by Sections of 2015 CalTrans Standard Specifications.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection: Protect from segregation and excessive moisture during delivery, storage, and handling.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aggregate Base Course:
   1. Class 2, 3/4 inch maximum aggregate size free from vegetable matter and other deleterious substances, and of such nature that aggregate can be compacted readily under watering and rolling to form a firm, stable base.
   2. Materials derived from processing demolished or removed asphalt concrete are not acceptable.
   3. Coarse aggregate material retained in Number 4 sieve shall consist of material of which at least 25 percent by weight shall be crushed particles when tested in

accordance with California Test 205.

4. Aggregate shall not be treated with lime, cement, or other chemical material before the Durability Index test is performed.
5. Aggregate grading and sand equivalent tests shall be performed to represent not more than 500 cubic yards or one day's production of material, whichever is smaller.
6. Grade within the limits and conform to quality requirements as follows when tested in accordance with California Test 202:

Sieve Sizes (Square Openings)	Percent by Weight Passing Sieve
1 inch	100
3/4 inch	90-100
Number 4	35-60
Number 30	10-30
Number 200	2-9

Quality Requirements		
Description	California Test	Minimum Test Result
Resistance (R Value)	301	78
Sand Equivalent	217	22
Durability Index	229	35

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine conditions upon which the work specified in this Section depends for defects that may influence installation and performance.

B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Subgrade Preparation: Prepare as specified in Section 02300, "Earthwork."

3.03 INSTALLATION

A. Furnish, spread, and compact aggregate base course material to the lines, grades, and dimensions indicated on the Drawings.
   1. Spreading: Spread in accordance with sections of CalTrans Standard

Specifications.
2. Compacting: Compact in accordance with sections of CalTrans Standard Specifications.

3.04 FIELD QUALITY CONTROL

A. Tests: Perform field tests as required per Section 02300.

END OF SECTION

SECTION 02742

ASPHALT CONCRETE PAVING

PART 1: GENERAL

1.01 DESCRIPTION

This section includes materials, testing, and installation of asphalt concrete pavement, aggregate base course, herbicide, prime coat, tack coat, and seal coat. All materials shall be in conformance with California Department of Transportation (CalTrans) Standard Specifications 2025 standard edition.

1.02 RELATED WORK SPECIFIED ELSEWHERE

Section 02300: Earthwork
Section 02360: Soil Treatment
Section 02722: Aggregate Base Course

1.03 SUBMITTALS

Submit six copies of a report from a testing laboratory verifying that aggregate material conforms to the specified gradations or characteristics.

PART 2: MATERIALS

2.01 ASPHALT CONCRETE PAVING

Asphalt concrete paving shall conform to Type A in Section 39-HMA of the Caltrans 2025 Standard Specifications, having ½-inch-maximum medium grading.

2.02 AGGREGATE BASE COURSE

Aggregate base shall be Class 2 aggregate base, ¾-inch-maximum size per Section 26 of the CalTrans Standard Specifications. Aggregate shall contain no detectable asbestos.

2.03 PRIME COAT

All areas to be paved shall receive prime coat. Prime coat shall be per Section 39-4.02 in the CalTrans Standard Specifications.

2.04 TACK COAT

Tack coat shall conform with Viscosity Grade PG 64-10 paving asphalt per Section 92 in the CalTrans Standard Specifications.

2.05 ASPHALT

Asphalt shall be viscosity grade PG 64-10. Asphalt content in the pavement shall be 5.5% to 6.0%.

2.06 AGGREGATE FOR ASPHALT CONCRETE

Class 2 AB per section 02722.

2.07 SEAL COAT

Seal coat shall be Type II slurry seal per Section 37 of the CalTrans Standard Specifications.

2.08 REDWOOD HEADER

Provide where indicated on the drawings. Size of redwood headers shall be 2-inches by the depth of the asphalt concrete paving; minimum size shall be 2-inches by 4-inches. Redwood shall be Construction Heart Grade stamped by the California Lumber Inspection Service.

2.09 HERBICIDE OR WEED KILLER

Provide under asphalt per section 02360.

2.10 PAINT FOR TRAFFIC AND PARKING LOT STRIPING AND MARKING

Provide Acetone-based paint for all traffic stripes and pavement markers as indicated on the drawings and per Section 84-3 of the CalTrans Standard Specifications.

PART 3: EXECUTION

3.01 PAVEMENT REMOVAL

A. Initially cut asphalt concrete pavement with pneumatic pavement cutter or other equipment at the limits of the excavation and remove the pavement. After backfilling the excavation, saw cut asphalt concrete pavement to the full depth of pavement at a point not less than 9 inches outside the limits of the excavation or the previous pavement cut, whichever is greater, and remove the additional pavement.

B. Saw cut concrete pavement, including cross gutters, curbs and gutters, sidewalks, and driveways, to the full depth of pavement at a point 1 foot beyond the edge of the excavation and remove the pavement. The concrete pavement may initially be cut at the limits of the excavation by other methods prior to removal and the saw cut made after backfilling the excavation. If the saw cut falls within 3 feet of a concrete joint or pavement edge, remove the concrete to the joint or edge.

C. Make arrangements for and dispose of the removed pavement.

D. Final pavement saw cuts shall be straight along both sides of trenches, parallel to the pipeline alignment, and provide clean, solid, vertical faces free from loose material. Saw cut and remove damaged or disturbed adjoining pavement. Saw cuts shall be parallel to the pipeline alignment or the roadway centerline or perpendicular to same.

3.02 PAVEMENT REPLACEMENT

Pavement replaced after cutting shall match the depth and section indicated on the Drawings.

3.03 INSTALLATION

Producing, hauling, placing, compacting, and finishing of asphalt concrete shall conform to Section 39 of the CalTrans Standard Specifications. Apply seal coat to all paving except open asphalt concrete.

3.04 CONNECTIONS WITH EXISTING PAVEMENT

Where new paving joins existing paving, saw cut the existing surfaces 12 inches back from the joint line full depth. Dispose of waste material offsite. Tack prior to placing the asphalt concrete. Meet lines shall be straight and the edges vertical. Paint the edges of meet line cuts with liquid asphalt or emulsified asphalt prior to placing asphalt concrete. After placing the asphalt concrete, seal the meet line by painting with a liquid asphalt or emulsified asphalt and then immediately cover with clean, dry sand.

3.05 PREPARATION OF SUBGRADE

A. Per Section 2300.

B. The finished subgrade shall be within a tolerance of 0.05 of a foot of the grade and cross section shown and shall be smooth and free from irregularities and at the specified relative compaction.

3.06 PLACING AGGREGATE BASE COURSE

Place aggregate base course to a minimum thickness as specified for the roadway. Compact to as noted in Section 2300.

3.07 COMPACTION OF AGGREGATE BASE AND LEVELING COURSES

Compaction and rolling shall begin at the outer edges of the surfacing and continue toward the center. Apply water uniformly throughout the material to provide moisture for obtaining the specified compaction. Compact each layer to the specified relative compaction before placing the next layer.

3.08 PLACING PRIME COAT

Apply prime coat to the surface of the leveling course of aggregate base at the rate of 0.25 gallon per square yard per Section 39-4.02 in the CalTrans Standard Specifications.

3.09 PLACING TACK COAT

Apply tack coat on surfaces to receive finish pavement per Section 39-4.02 in the CalTrans Standard Specifications. Apply tack coat to metal or concrete surfaces that will be in contact with the asphalt concrete paving.

3.10 PLACING ASPHALT PAVING

Install in accordance with Section 39-6 in the CalTrans Standard Specifications.

3.11 COMPACTION OF ASPHALT CONCRETE PAVING

Compact until roller marks are eliminated and a density of 92% minimum to 98% maximum has been attained per ASTM D 2041. Compacting equipment shall conform to the provisions of Section 39-5.02, “Compacting Equipment.”

3.12 APPLYING SEAL COAT

Apply slurry seal coat at the rate of 10 to 18 pounds of dry aggregate per square yard.

3.13 SURFACE TOLERANCE

A. Finished grade shall not deviate more than 0.02 foot in elevation from the grade indicated in the drawings. Slopes shall not vary more than 1/4 inch in 10 feet from the slopes shown in the drawings.

B. After paving has been installed and compacted, spray water over the entire paved area. Correct any areas where water collects and does not drain away.

3.14 APPLYING PAINT FOR TRAFFIC AND PARKING LOT STRIPING AND MARKING

Apply in accordance with Section 84 of the CalTrans Standard Specifications.

END OF SECTION

SECTION 02952

PAVEMENT RESTORATION AND REHABILITATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Resurfacing roads and paved surfaces in which surface is removed or damaged by installation of new work or operations of the Contractor.

B. Related Sections:
   1. Section 02722 - Aggregate Base Course.
   2. Section 02742 - Asphaltic Concrete Paving.
   3. Section 03300 - Cast-in-place Concrete.

1.02 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. Limiting Dimensions:
      a. Determine the exact lengths and dimensions of such roads, pavements, parking areas, and walks that will require removal and replacement for new work.
      b. Join existing surfaces to terminals of new surfacing in smooth juncture.

B. Conduct work in conformance with the project Geotechnical Report.

1.03 SUBMITTALS

A. Mix Designs:
   1. Prior to placement of asphalt concrete, submit full details, including design and calculations for the asphalt concrete mix proposed.
   2. Submit gradation of aggregate base.
   3. Submit proposed mix design of portland cement concrete.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aggregate Base Course: As specified in Section 02722.

B. Asphalt Pavement: As specified in Section 02742.

C. Portland Cement Concrete Replacement Material: Class A concrete as specified in Section 03300.

2.02 EQUIPMENT

A. Roads, Pavements, Parking Areas, and Walks:
   1. Equipment Requirements: Good condition, capable of performing work intended in satisfactory manner.

2.03 ACCESSORIES

A. Material for Painting Asphalt Concrete Pavement: Tack coat as required.

PART 3 EXECUTION

3.01 INSTALLATION

A. Aggregate Surface Removal Replacement:
   1. When trench cut is in aggregate surfaced areas, replace aggregate base course material with material matching existing material compacted to 95 percent of its maximum density.

B. Pavement Removal and Temporary Asphalt Replacement:
   1. Install temporary asphalt pavement or first course of permanent pavement replacement immediately following backfilling and compaction of trenches that have been cut through existing pavement.
   2. Except as otherwise provided, maintain this temporary pavement in safe and reasonably smooth condition until required permanent pavement is installed.
   3. Remove and dispose of temporary paving from project site.
   4. Where longitudinal trench is partly in pavement, replace pavement to original pavement edge, on a straight line, parallel to center line of roadway.
   5. Where no part of longitudinal trench is in pavement, surfacing replacement shall only be required where existing surfacing materials have been removed.

C. Asphalt Pavement Replacement:
   1. Replace asphalt pavement to same thickness as adjacent pavement and match as nearly as possible adjacent pavement in texture, unless otherwise **indicated on the Drawings**.
   2. Cut existing asphalt pavements to be removed for trenches or other underground construction by wheel cutter, clay spade, or other device capable of making neat, reasonably straight and smooth cut without damaging adjacent pavement. Cutting device operation shall be subject to acceptance of ENGINEER.
   3. Cut and trim existing pavement after placement of required aggregate base course and just prior to placement of asphalt concrete for pavement replacement, and paint trimmed edges with material for painting asphalt concrete pavement immediately prior to constructing new abutting asphalt pavements. No extra payment will be made for these items, and all costs incurred in performing this work shall be incidental to pipe laying or pavement replacement.
   4. Conform replacement of asphalt pavement to contour of original pavement.

D. Portland Cement Concrete Pavement Replacement:
   1. Where trenches lie within Portland cement concrete section of streets, alleys, sidewalks, and similar concrete construction, saw cut such concrete (to a depth of not less than 1-1/2 inches) to neat, vertical, true lines in such manner adjoining surfaces are not damaged.
   2. Place portland cement concrete replacement material to dimension as **indicated on the Drawings**.
   3. Provide expansion joints that match existing.
   4. Before placing replacement concrete, thoroughly clean edges of existing pavement and wash with neat cement and water.
   5. Surface Finish: Wood float finish.

E. Curb, Gutter, and Sidewalk Replacement:
   1. Where any concrete curb, gutter, or sidewalk has been removed or displaced, replace to nearest construction joints with new Class A curb, gutter, or sidewalk to same dimensions and finish as original construction that was removed.
      a. Provide expansion joints of same spacing and thickness as original construction.

F. Pavement Replacement
   1. Trim existing asphalt pavements which are to be matched by pavement widening or pavement extension to neat true line with straight vertical edges free from irregularities with saw specifically designed for this purpose. Minimum allowable depth of cut shall be 1-1/2 inches.
   2. Cut and trim existing pavement after placement of required aggregate base course and just prior to placement of asphalt concrete for pavement widening or extension, and paint trimmed edges with material for painting asphalt concrete pavement immediately prior to constructing new abutting asphalt concrete pavements. No extra payment will be made for these items and all costs incurred in performing this work shall be incidental to widening or pavement extension.

3.02 FIELD QUALITY CONTROL

A. Tests:
   1. Asphalt concrete per Caltrans.
   2. Concrete as specified in Section 03300.

B. Inspection:
   1. Asphalt Concrete:
      a. Lay 10 foot straightedge parallel to center line of trench when the trenches run parallel to street, and across pavement replacement when trench crosses street at angle.
      b. Remove and correct any deviation in cut pavement replacement greater than 1/4 inch in 10 feet.
   2. Portland Cement Concrete Replacement Pavement:
      a. Lay 10 foot straightedge either across pavement replacement or longitudinal with center line of gutter or ditch.
      b. Remove and correct any deviation in cut pavement replacement greater than 1/4 inch in 10 feet.

END OF SECTION

SECTION 02976

SUBGRADE ENHANCEMENT WITH GEOTEXTILE FABRIC

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Woven geotextile material used for subgrade enhancement below areas to receive import fill or road base material and as otherwise **indicated on the Drawings**.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. D 3786 - Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics: Diaphragm Brushing Strength Tester Method.
   2. D 4533 - Test Method for Trapezoid Tearing Strength of Geotextiles.
   3. D 4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
   4. D 4833 - Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.

1.03 DEFINITIONS

A. Subgrade Enhancement: Woven geotextile fabric manufactured from polyester, polypropylene, or polypropylene-nylon material or any combination thereof.

B. Performance Requirements:
   1. Limiting Dimensions:
      a. Verify exact lengths and dimensions of such roads, pavements, parking areas, and walks.
      b. Join existing surfaces to terminals of surfacing in smooth juncture.

C. Geotechnical Engineer-of-Record (GEOR): Is the geotechnical engineer who provided geotechnical design recommendations for the project and/or who has been retained by the OWNER to provide geotechnical consultation, review of submittals and RFIs, and confirmatory/compliance observation and compaction testing services of earthwork operations during construction of the project.

1.04 SUBMITTALS

A. Product Data.

B. Samples.

C. Quality Control Submittals:
   1. Certificates of Compliance.
   2. Manufacturer's Instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection:

1. Furnish engineering fabrics in protective covers capable of protecting the fabric from ultraviolet rays, abrasion, and water.

1.06 PROJECT CONDITIONS

A. Field Measurements:
   1. Take field measurements to determine the exact lengths and dimensions of the surfaces to receive the fabric.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. One of the Following or Equal:
   1. Mirafi® 600X, Mirafi® RS280i.

2.02 MATERIAL REQUIREMENTS

A. Physical Properties: Meet the following minimum requirements.

Property(1)	Test Method	Requirements(1)
Grab Tensile Strength(2)	ASTM D 4632	315 pounds
Grab Tensile Elongation(2)	ASTM D 4632	12 percent
Trapezoid Tear Strength(2)	ASTM D 4533	113 pounds
Puncture Strength(2)	ASTM D 4833	900 pounds
UV Resistance after 500 hours	ASTM D 4355	70 % Strength
Apparent Opening Size	ASTM D 4751	40 US Sieve
Permittivity	ASTM D 4491	0.05/sec
Flow Rate	ASTM D 4491	4 gal/min/ft^2
(1) Minimum average roll values. (2) or Tensile Strength @ 2% Strain (ASTM D 4595) or Tensile Strength @ 5% Strain (ASTM D 4595)		600 pounds/foot 1600 pounds/foot

2.03 EQUIPMENT

A. Roads, Pavements, Ponds, Berms, General Site Areas, Parking Areas, and Walks:
   1. Use equipment in good condition, capable of performing work intended in satisfactory manner.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verifications of Conditions.

3.02 PREPARATION

A. Surface Preparation: During grading operations, take care not to disturb or scarify the subgrade. This may require use of lightweight dozers for low strength soils such as saturated, cohesionless, or low cohesion soils.

3.03 INSTALLATION

A. Mirfai RS280i only shall be used under the heave traffic loading pavement sections where a TI of 7 or higher is called for on the plans or in the Geotechnical Report. Mirfai 600X can be used at other locations where geotextile fabric is called for.

B. Follow Manufacturer's Installation Instructions and as Complimented Herein:
   1. Once the subgrade along a particular segment of road alignment has been prepared, unroll the geotextile in line with the placement of the new aggregate base coarse. Do not drag fabric across the subgrade. Place and roll out fabric as smoothly as possible. If heat bonded fabric is used, place fuzzy side against the soil with the bonded side up.
   2. Overlap parallel rolls or ends of fabric 24 inches or sewn soils that have a California Bearing Ratio (CBR) less than 5 or an R-value less than 20, use a 36 inch overlap.
   3. Secure fabric with pins placed on 6 foot centers at the midpoint of all overlaps and at the edges to maintain them during construction activities. Reduce spacing of pins if necessary to eliminate tearing and movement of the fabric.
   4. For roadways, select fabric widths such that overlaps of parallel rolls occur at the lane lines. Do not place overlaps along anticipated main wheel path locations.
   5. Make overlaps at the ends of rolls in the direction of the aggregate placement with the previous roll on top.
   6. When fabric intersects an existing pavement area, extend the fabric to the edge of the old system and anchor fabric.
   7. Place aggregate base coarse on the fabric in such a manner and thickness that wheel rutting of aggregate over the fabric is limited to 1/2 inch. The minimum thickness shall be as **indicated on the Drawings**. Use lightweight dozers if necessary. Do not allow equipment directly on the fabric.

3.04 FIELD QUALITY CONTROL

A. Inspection: Before covering, the conditions of the fabric will be observed by the ENGINEER to determine that no holes or rips exist in the fabric. Repair all such occurrences by placing a new layer of fabric extending beyond the defect in all directions a distance equal to the minimum overlap required for adjacent rolls.

END OF SECTION

SECTION 03055

EPOXY BONDING REINFORCING BARS AND RODS IN CONCRETE

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Bonding reinforcing bars and all thread rods in concrete using epoxy adhesive.

B. Related Sections:
   1. The following Sections are related to the Work described in this Section. This list of Related Sections is provided for convenience only and is not intended to excuse or otherwise diminish the duty of the CONTRACTOR to see that the completed Work complies accurately with the Contract Documents.
   2. Section 03200- Concrete Reinforcing.
   3. Section 05120 - Structural Steel.

1.02 REFERENCES

A. American National Standards Institute (ANSI):
   1. Standard B212.15 - Carbide Tipped Masonry Drills and Blanks for Carbide Tipped Masonry Drills.

B. American Society for Testing and Materials (ASTM):
   1. C 881 - Specification for Epoxy-Resin-Base Bonding Systems for Concrete.

C. ICC Evaluation Service, Inc. (ICC-ES):
   1. AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.

D. Society for Protective Coatings (SSPC):
   1. SP-1 Solvent Cleaning.

1.03 SUBMITTALS

A. Product Data: Furnish technical data for epoxy adhesives, including installation instructions, independent laboratory test results, and handling and storage instructions.

B. Quality Control Submittals:
   1. Epoxy manufacturer's past project experience data on at least 3 similar projects supplied with proposed products within the last 3 years.
   2. Special Inspection: All epoxy installations shall have special inspection by the OWNERs' designated Inspector/Testing Laboratory.
   3. Provide test reports on the epoxy per ICC Evaluation Service, Inc., Evaluation Services Report in compliance with the AC308-Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.

C. Where adhesive anchors are allowed, personnel used for installation shall be certified by an applicable certification program per ACI 318-19 section 26.7.1 (l).

1.04 DELIVERY, STORAGE, AND HANDLING

A. Storage of Epoxy Components:
   1. Store epoxy components on pallets or shelving in a covered-storage area.
   2. Control temperature per manufacturer's instructions and dispose of product if shelf life has expired.

PART 2 PRODUCTS

2.01 GENERAL

A. Like Items of Materials: Use end products of one manufacturer in order to achieve structural compatibility and singular responsibility.

2.02 EPOXY ADHESIVE FOR SELF-CONTAINED CARTRIDGE SYSTEM

A. Epoxy adhesives shall have a current ICC Evaluation report documenting acceptance under AC318 Chapter 17 for use with cracked concrete and for the seismic design categories specified.

B. Manufacturers: One of the following or equal:
   1. Hilti, Tulsa, OK, HIT-RE500 V3.
   2. Simpson Strong-Tie company Inc. Pleasanton, CA; SET-3G.

2.03 ALL THREAD BARS

A. Materials: As specified per ICC Reports.

2.04 REINFORCING BARS

A. As specified in Section 03200.

PART 3 EXECUTION

3.01 GENERAL

A. Provide Epoxy Adhesive Packaged as Follows:
   1. Disposable, self-contained cartridge system capable of dispensing both epoxy components in the proper mixing ratio, and fit into a manually or pneumatically operated caulking gun.
   2. Dispensing, components through a mixing nozzle that thoroughly mixes components
   3. Personnel Installing Epoxy: All personnel installing epoxy systems shall be certified per ACI 318-19 Section 26.7.1 (I). prior to installing any portion of epoxy systems.

3.02 HOLE SIZING AND INSTALLATION

A. Drilling Holes:
   1. Determine location of reinforcing bars or other obstructions with a nondestructive indicator device, and mark locations with construction crayon on the surface of the concrete.
   2. Do not damage or cut existing reinforcing bars, electrical conduits, or other items embedded in the existing concrete without acceptance by ENGINEER.

3. All drill frames shall have dual offset holes so that if the CONTRACTOR hits rebar in a hole, the CONTRACTOR can move over and down into a new hole location without removing the drill frame.

B. Hole Drilling Equipment:
   1. Electric or pneumatic rotary impact type with medium or light impact.
   2. Drill Bits: Carbide-tipped in accordance with ANSI B212-15 unless otherwise recommended by the manufacturer or required as a "condition of use" in the ICC Evaluation Report submitted.
   3. Where edge distances are less than 2 inches, use lighter impact equipment to prevent microcracking and concrete spalling during drilling process.
   4. Minimum edge distances, concrete thickness, allowable shear and allowable tension loads shall be in compliance with the current ICC evaluation report.

C. Hole Diameter: Per ICC Reports.

D. Obstructions in Drill Path:
   1. If an existing reinforcing bar or other obstruction is hit while drilling hole, stop drilling hole and fill the hole with Epoxy Grout. Relocate the hole to miss the obstruction and drill another hole. Repeat the above until the hole has been drilled to the required depth. Contact ENGINEER for minimum hole to hole spacing requirements.
   2. Avoid drilling an excessive number of holes in an area of a structural member which would excessively weaken the structural member and endanger the stability of the structure. When required, fill holes which hit obstructions with Epoxy Grout and allow Epoxy Grout to reach strength equal to the existing concrete before drilling adjacent holes.
   3. Bent Bar Dowels: Where edge distances are critical, and striking reinforcing steel is likely, and if acceptable to ENGINEER, drill hole at 10 degree angle or less from axis of reinforcing bar or all thread rod being installed.

E. Install reinforcing bars and all thread rods to depth, spacing, and locations as indicated on the Drawings.
   1. Do not install epoxy bonded all-thread rods or reinforcing bars in overhead applications.

F. Cleaning Holes: Per ICC Report.

G. Cleaning Reinforcing Bars and All Thread Rods:
   1. Solvent clean reinforcing bars or all thread rods over embedment length in accordance with SSPC SP-1 Solvent Cleaning. Provide an oil and grease free surface to promote bonding of adhesive to steel.
   2. Clean reinforcing bars and all thread rods over embedment length to bare metal. The reinforcing bar or all thread rod shall be free of oil, grease, paint, dirt, mill scale, rust, or other coatings that will reduce bond.

H. Filling Hole with Epoxy:
   1. Fill the hole with epoxy before inserting the reinforcing bar or all thread rod. Fill hole with epoxy starting from back of the hole. Fill hole without creating air voids.
   2. Fill the hole with sufficient epoxy so that excess epoxy is extruded out of the hole when the reinforcing bar or all thread rod is inserted into the hole.
   3. Do not install epoxy prior to receiving epoxy manufacturer's onsite training.

I. Minimum Epoxy Anchor Embedment Depth:

1. Where epoxy anchor concrete embedment is not shown on the drawings/details the minimum embedment depth shall be 4".

3.03 MANUFACTURERS' SERVICES

A. Furnish manufacturer's representative to conduct jobsite training for proper installation, handling, and storage of epoxy, for personnel who will perform actual installation. ENGINEER may attend training sessions.

3.04 FIELD QUALITY CONTROL

A. Any personnel installing epoxy dowels or anchors in inclined, vertical, or overhead surfaces shall be trained and certified as required under ACI-318 Section 17.8. contractor shall submit certification for all personnel installing epoxy systems for approval prior to installation of epoxy systems.

B. OWNER's representative will:
   1. Review epoxy manufacturer's recommended special inspection procedures.
   2. Periodically inspect hole-drilling operations for conformance with Contract Documents and manufacturer's recommendations.
   3. Observe that depth and location of holes conform to the requirements in the Contract Documents prior to placement of epoxy.
   4. Continuously inspect placement of epoxy and reinforcing bars installation.
   5. Perform pull/tension testing of the epoxy anchors and reinforcing.

END OF SECTION

SECTION 03071

EPOXIES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Epoxy.
   2. Epoxy gel.
   3. Epoxy bonding agent.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. D 638 - Test Method for Tensile Properties of Plastics.
   2. D 695 - Test Method for Compressive Properties of Rigid Plastics.
   3. D 790 - Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. Provide epoxy materials that are new and use them within shelf life limitations set forth by manufacturer.
   2. Perform and conduct work of this Section in neat orderly manner.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's data completely describing epoxy materials.

B. Quality Control Submittals:
   1. Manufacturer's installation instructions.

PART 2 PRODUCTS

2.01 MATERIALS

A. Epoxy: Moisture-tolerant two-part type low viscosity epoxy adhesive material containing 100 percent solids and meeting or exceeding following characteristics when tested in accordance with standards specified: Manufacturers: One of the following or equal:
   1. Sika Chemical Corp.'s, Sikadur 35 Hi-Mod LV.

Physical Characteristic	Test Method	Required Results
Tensile Modulus of Elasticity	ASTM D 638	$4.1X10^5$ pounds per square inch at 14 days and 73 degrees Fahrenheit cure.
Flexure Strength Neat	ASTM D 790	14,000 pounds per square inch at 14 days and 73 degrees Fahrenheit cure.
Compressive Strength Neat	ASTM D 695	6,000 pounds per square inch at 24 hours and 73 degrees Fahrenheit cure.
Tensile Adhesion Strength	ASTM C882	4000 pounds per square inch at 2 day moist cure.
	____	

B. Epoxy Gel: Manufacturers: One of the following or equal:
   1. Sika Chemical Corp.'s, Sikadur 31, Hi-Mod Gel.

C. Epoxy Bonding Agent: Manufacturers: One of the following or equal:
   1. Sika Chemical Corp.'s, Sikadur 32, Hi-Mod.

D. Extended Application Life Epoxy Bonding Agent: Manufacturers: One of the following or equal:
   1. Larsen Products Corp, Weld Crete.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install and cure epoxy materials in accordance with manufacturer's installation instructions.

B. Epoxy:
   1. Apply in accordance with manufacturer's installation instructions.

C. Epoxy Gel:
   1. Apply in accordance with manufacturer's installation instructions.
   2. Use for vertical or overhead work, or where high viscosity epoxy is required.
   3. Epoxy gel used for vertical or overhead work may be used for horizontal work.

D. Epoxy Bonding Agent:
   1. Apply in accordance with manufacturer's installation instructions.
   2. Bonding agent will not be required for filling snap tie holes or for normal finishing and patching of similar sized small defects.
   3. Bonding agent is required for dry packing taper tie holes per Specification Section 03102.

E. Extended Application Life Epoxy Bonding Agent:
   1. Apply in accordance with manufacturer's installation instructions.
   2. Extended Application Life Bonding agent used only for concrete to concrete applications where extended application life is required, E.G. while "buttoning" forms, etc.

END OF SECTION

SECTION 03102

CONCRETE FORMWORK

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Concrete formwork.

B. Related Sections:
   1. Section 03300 - Cast-in-place Concrete.
   2. Section 03600 - Grouts.

1.02 REFERENCES

A. American Concrete Institute (ACI):
   1. 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.

1.03 SYSTEM DESCRIPTION

A. Design Requirements:
   1. Design of concrete forms, falsework, and shoring in accordance with local, state, and federal regulations.
   2. Design forms and ties to withstand concrete pressures without bulging, spreading, or lifting of forms.

B. Performance Requirements:
   1. Construct forms so that finished concrete conforms to shapes, lines, grades, and dimensions indicated on the Drawings.
   2. It is intended that surface of concrete after stripping presents smooth, hard, and dense finish that requires minimum amount of finishing.
   3. Provide sufficient number of forms so that the work may be performed rapidly and present uniform appearance in form patterns and finish.
   4. Use forms that are clean and free from dirt, debris, concrete, and similar type items. Coat with acceptable form release oil if required, prior to use or reuse.

1.04 SUBMITTALS

A. Information on the CONTRACTOR's Proposed Forming System: Submit in such detail as the ENGINEER may require in order to assure himself that intent of the Specifications can be complied with by use of proposed system.

B. Alternate Combinations of Plywood Thickness and Stud Spacing: May be submitted.

1.05 QUALITY ASSURANCE

A. Qualifications of Formwork Manufacturers: Use only forming systems manufactured by manufacturers having minimum 5 years experience, except as otherwise specified, or accepted in writing by the ENGINEER.

B. Regulatory Requirements: Install work of this Section in accordance with local, state, and federal regulations.

1.06 PROJECT CONDITIONS

A. Requirements Due to Weather Condition:
   1. Removal of Formwork: Do not remove forms from concrete which has been placed when outside ambient air temperature is below 50 degrees Fahrenheit until concrete has attained specified strength as determined by test cylinders stored in field under equivalent conditions as concrete structure.

PART 2 PRODUCTS

2.01 MATERIALS

A. Form Ties:
   1. General:
      a. Provide form ties for forming system selected that are manufactured by recognized manufacturer of concrete forming equipment.
      b. Do not use wire ties or wood spreaders of any form.
      c. Provide ties of type that accurately tie, lock, and spread forms.
      d. Provide form ties of such design that when forms are removed they locate no metal or other material within 1-1/2 inches of the surface of the concrete.
      e. Do not allow holes in forms for ties to allow leakage during placement of concrete.
   2. Cone-snap or Flat Bar Form Ties:
      a. Cone-snap ties shall form a cone shaped depression in the concrete with a minimum diameter of 1 inch at the surface of the concrete and 1-1/2 inches deep.
      b. Provide neoprene waterseal washer which is located near the center of the concrete.
   3. Taper Ties:
      a. Neoprene Plugs for Taper Tie Holes: Size so that after they are driven, plugs are located in center third of wall thickeners.
      b. Drypack Mortar for Filling Taper Tie Holes:
         1) Consist of mix of 1 part of Portland cement to 1 part of plaster sand.
         2) Amount of water to be added to cement-sand mix is to be such that mortar can be driven into holes and be properly compacted.
         3) Admixtures or Additives: Are not to be used in dry-pack mortar.

B. Built-up Plywood Forms:
   1. Built-up plywood forms may be substituted for prefabricated forming system subject to following minimum requirements:
      a. Size and Material:
         1) Full size 4 by 8 feet plywood sheets, except where smaller pieces are able to cover entire area.
         2) Sheet Construction: 5-ply plywood sheets, 3/4 inch nominal, made with 100 percent waterproof adhesive, and having finish surface that is coated or overlaid with surface which is impervious to water and alkaline calcium and sodium hydroxide of cement.
      b. Wales: Minimum 2 by 4 inch lumber.
      c. Studding and Wales: Contain no loose knots and be free of warps, cups, and bows.

C. Steel or Steel Framed Forms:
   1. Steel Forms: Provide forms that are:
      a. Rigidly constructed and capable of being braced for minimum deflection of finish surface.
      b. Capable of providing finish surfaces that are flat without bows, cups, or dents.
   2. Steel Framed Plywood Forms:
      a. Provide forms that are rigidly constructed and capable of being braced.
      b. Plywood Paneling: 5-ply, 5/8 inch nominal or 3/4 inch nominal, made with 100 percent waterproof adhesive, and having finish surface that is coated or overlaid with surface which is impervious to water and alkaline calcium and sodium hydroxide of cement.

D. Incidentals:
   1. External Angles:
      a. Where not otherwise indicated on the Drawings, provide with 3/4 inch bevel, formed by utilizing true dimensioned wood or solid plastic chamfer strip on walkways, slabs, walls, beams, columns, and openings.
      b. Provide 1/4 inch bevel formed by utilizing true dimensioned wood or solid plastic chamfer strip on walkways, walls, and slabs at expansion, contraction, and construction joints.
   2. Keyways: Steel, plastic, or lumber treated with form coating, applied according to label directions.
   3. Inserts:
      a. Dovetail Anchors or Ties:

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:
   1. Do not place any concrete until all forms have been thoroughly checked for alignment, level, strength, and to assure accurate location of all mechanical and electrical inserts or other embedded items.

3.02 INSTALLATION

A. Forms and Accessories:
   1. Vertical Forms:
      a. Remain in place minimum of 24 hours after concrete is placed.
      b. If, after 24 hours, concrete has sufficient strength and hardness to resist surface or other damage, forms may be removed.
   2. Other Forms Supporting Concrete and Shoring: Remain in place as follows:
      a. Sides Of Footings: 24 hours minimum.
      b. Vertical Sides of Beams, Girders, and Similar Members: 48 hours minimum.
      c. Slabs, Beams, and Girders: Until concrete strength reaches specified strength or until shoring is installed.
      d. Shoring for Slabs, Beams, and Girders: Shore until concrete strength reaches specified strength.
      e. Wall Bracing: Until concrete strength of beams and slabs laterally supporting wall reaches specified strength.
   3. Green Concrete:
      a. No heavy loading on green concrete will be permitted.
      b. Green concrete is defined as concrete with less than 100 percent of specified strength.

4. Immediately after forms are removed, carefully examine concrete surfaces, and repair any irregularities in surfaces and finishes as specified in Section 03300.

B. Form Ties:
   1. Cone-snap Rod and Bar Ties: Tie forms together at not more than 2 foot centers vertically and horizontally. After forms are removed from wall, fill tie holes as follows:
      a. Remove form ties from surfaces.
      b. Roughen cone shaped tie holes by heavy sandblasting before repair.
      c. Dry pack cone shaped tie holes with drypack mortar as specified in Section 03600.
   2. Taper Ties:
      a. Neoprene Plug in Taper Tie Holes: After forms and taper ties are removed from wall, plug tie holes with neoprene plug as follows:
         1) Heavy sandblast and then clean tie holes.
         2) After cleaning, drive neoprene plug into each of taper tie holes with steel rod. Final location of neoprene plug shall be in center third of wall thickness. Bond neoprene plug to concrete with epoxy.
         3) Locate steel rod in cylindrical recess, made in plug, during driving.
            a) At no time are plugs to be driven on flat area outside cylindrical recess.
      b. Dry Pack Of Taper Tie Holes: After Installing Plugs in Tie Holes:
         1) Coat tie hole surface with epoxy bonding agent and fill with drypack mortar as specified in Section 03600.
            a) Drypack Mortar: Place in holes in layers with thickness not exceeding tie hole diameter and heavily compact each layer.
            b) Dry pack the outside of the hole no sooner than 7 days after the inside of the hole has been dry packed.
            c) Wall surfaces in area of drypacked tie holes: On the water side of water containing structures and the outside of below grade walls:
               (1) Cover with minimum of 10 mils of epoxy gel.
               (2) Provide epoxy gel coating on wall surfaces that extend minimum of 2 inches past drypack mortar filled tie holes.
               (3) Provide finish surfaces that are free from sand streaks or other voids.

C. Built-up Plywood Forms:
   1. Studding:
      a. Spaced at 16 inches or 24 inches on center.
      b. Closer spacing may be required depending upon strength requirements of the forms, in order to prevent any bulging surfaces on faces of finished concrete work.
      c. Install studs perpendicular to grain of exterior plys of plywood sheets.
   2. Wales: Form wales of double lumber material minimum size as specified in this Section.
   3. Number of Form Reuses: Depends upon durability of surface coating or overlay used, and ability to maintain forms in condition such that they are capable of producing flat, smooth, hard, dense finish on concrete when stripped.

D. Steel or Steel Framed Forms:
   1. Steel Forms:
      a. Adequately brace forms for minimum deflection of finish surface.
   2. Steel Framed Plywood Forms:
      a. Rigidly construct and brace with joints fitting closely and smoothly.

b. Number of Form Reuses: Depends upon durability of surface coating or overlay used.

3. Built-up Plywood Forms: As specified in this Section may be used in conjunction with steel forms or steel framed plywood forms for special forming conditions such as corbels and forming around items which will project through forms.

E. Bracing and Alignment of Forms:
1. Line and Grade: Limit deviations to tolerances which will permit proper installation of structural embedded items or mechanical and electrical equipment and piping.
2. Formwork:
   a. Securely brace, support, tie down, or otherwise hold in place to prevent any movement.
   b. Make adequate provisions for uplift pressure, lateral pressure on forms, and deflection of forms.
3. When Second Lift is Placed on Hardened Concrete: Take special precautions in form work at top of old lift and bottom of new lift to prevent:
   a. Spreading and vertical or horizontal displacement of forms.
   b. Grout "bleeding" on finish concrete surfaces.
4. Pipe Stubs, Anchor Bolts, and Other Embedded Items: Set in forms where required.
5. Cracks, Openings, or Offsets at Joints in Formwork: Close those that are 1/16 inch or larger by tightening forms or by filling with acceptable crack filler.

F. Incidentals:
1. Keyways: Construct keyways as indicated on the Drawings.
2. Reentrant Angles: May be left square.
3. Level Strips: Install level strips at top of wall concrete placements to maintain true line at horizontal construction joints.
4. Inserts:
   a. Encase pipes, anchor bolts, steps, reglets, castings, and other inserts, as indicated on the Drawings or as required, in concrete.
   b. Use dovetail anchors or ties in conjunction with slots or inserts for various materials as specified under other sections of these Specifications and as may be necessary for required work.

G. Pipe and Conduit:
1. Install pipe and conduit in structures as indicated on the Drawings, and seal with materials as shown on the Drawings.

H. Tolerances:
1. Finish concrete shall conform to shapes, lines, grades, and dimensions indicated on the Drawings.
2. The maximum deviation from true line and grade shall not exceed tolerances listed below at time of acceptance of project.
3. General: Comply with ACI 117, paragraphs 2.0 through 2.2 and paragraphs 4.0 through 4.5, except as modified in following:
   a. Slabs:
      1) Slope: Uniformly sloped to drain when slope is indicated on the Drawings.
      2) Slabs Indicated to Be Level: Have maximum deviation of 1/8 inch in 10 feet without any apparent changes in grade.
   b. On Circular Tank Walls: The CONTRACTOR may deviate from finish line indicated on the Drawings by use of forms with chord lengths not to exceed 2 feet.

c. Inserts: Set inserts to tolerances required for proper installation and operation of equipment or systems to which insert pertains.
d. Maximum Tolerances: As follows:

Item	Inches
Sleeves and Inserts	Plus 1/8 Minus 1/8
Projected Ends of Anchor Bolts	Plus 1/4 Minus 0.0
Anchor Bolt Setting	Plus 1/16 Minus 1/16

END OF SECTION

SECTION 03150

CONCRETE ACCESSORIES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Waterstops.
   2. Preformed synthetic sponge rubber expansion joint material.
   3. Preformed bituminous fiber expansion joint material.
   4. Expanded polystyrene joint filler.
   5. Hardboard.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. C 203 - Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation.
   2. D 570 - Test Method for Water Absorption of Plastics.
   3. D 624 - Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
   4. D 638 - Test Method for Tensile Properties of Plastics.
   5. D 746 - Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
   6. D 747 - Test Method for Apparent Bending Modulus of Plastics by Means of a Cantilever Beam.
   7. D 792 - Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.
   8. D 2240 - Test Method for Rubber Property—Durometer Hardness.

B. U. S. Army Corps of Engineers (U.S.ACOE):
   1. CRD-C-572, Specification for Polyvinylchloride Waterstop.

1.03 SUBMITTALS

A. Product Data:
   1. Submit data of complete physical properties for polyvinyl chloride waterstops.
   2. Preformed Expansion Joint Material: Submit sufficient information on each type of material for review to determine conformance of material to requirements specified.

B. Samples: Submit samples of polyvinyl chloride waterstop.

C. Laboratory Test Reports: Submit reports indicating that average properties of polyvinyl chloride waterstops material and finish conform to requirements specified in this Section.

D. Quality Control Submittals:
   1. Certificates of Compliance: Submit written certificates that polyvinyl chloride waterstops supplied on this project meet or exceed physical property requirements of current U.S.ACOE CRD-C-572.

2. Manufacturer's Instructions: Submit instructions for materials specified in this Section that are specified to be installed with such instructions.

1.04 QUALITY ASSURANCE

A. Mock-ups:
   1. Welding Demonstration:
      a. Demonstrate ability to weld acceptable joints in polyvinyl chloride waterstop before installing waterstop in forms.
      b. Quality of welded joints will be subject to acceptance of the ENGINEER.

PART 2 PRODUCTS

2.01 MATERIALS

A. Polyvinyl Chloride Waterstops: Provide waterstops manufactured from virgin polyvinyl chloride plastic compound that does not contain any scrap or reclaimed material.

B. Expanded Polystyrene Joint Filler:
   1. Type: Commercially available polystyrene board, having following minimum characteristics:
      a. Flexural Strength, Minimum: 35 pounds per square inch in accordance with ASTM C 203.
      b. Compressive Yield Strength: Between 16 and 40 pounds per square inch, at 5 percent compression.

C. Hardboard: 1/8 inch minimum thickness, conforming to FS LLL-B-810, any type.

2.02 WATERSTOPS

A. Manufacturers: One of the following or equal:
   1. Sika Greenstreak Plastic Product Division of Western Textile Products Company.

B. Polyvinyl Chloride Waterstops:
   1. Material and Type: Provide polyvinyl chloride waterstops. Ribbed type waterstops will not be allowed.
   2. Unless otherwise specified or indicated on the Drawings, provide following types:
      a. 6 inch flat dumbbell type in construction and contraction joints.
      b. 9 inch wide dumbbell with hollow center bulb in expansion joints.
   3. Provide polyvinyl chloride waterstops complying with following requirements:

Physical Characteristics	Test Method	Required Results
Specific Gravity	ASTM D 792	1.38 maximum
Hardness Shore A15	ASTM D 224 0	79 +/-3
Tensile Strength	ASTM D 638	Not less than 2,000 pounds per square inch
Ultimate Elongation	ASTM D 638	Not less than 350 percent
Alkali Extraction	CRD-C-572	+0.25%-0.10% +/-5 points
	ASTM D 746	Passes at -35 degrees F

Physical Characteristics	Test Method	Required Results
Low Temperature Brittle Point		
Water Absorption	ASTM D 570	Not more than 0.15 percent maximum
Accelerated Extraction Tensile	CRD-C-572	Not less than 1600 pounds per square inch, 300% min.
Stiffness in Flexure	ASTM D 747	Not less than 700 pounds per square inch
Tear Resistance	ASTM D 624	Not less than 300 pounds per inch
Weight Requirements		
6 inch Waterstops	—	Weigh not less than 130 pounds per 100 linear feet
9 inch Waterstops	—	Weigh not less than 220 pounds per 100 linear feet
Thickness	—	3/8 inch
Center Bulb: 9 inch Waterstops	—	1-1/2 inch nominal outside diameter
Allowable Tolerances		
Width	—	Plus or minus 3/16 inch
Thickness	—	Plus or minus 1/32 inch

2.03 PREFORMED EXPANSION JOINT MATERIAL

A. Material: Synthetic sponge rubber or bituminous fiber types.

B. Use specific type in applications as indicated on the Drawings.

C. Synthetic Sponge Rubber Type:
   1. Manufacturers: One of the following or equal:
      a. W.R. Meadows
   2. Uniform thickness, grey-colored, top quality blown sponge rubber.
   3. Compressible with minimum of 95% recovery.
   4. Not less than 30 lbs/cf.

D. Bituminous Fiber Type:
   1. Manufacturers: One of the following or equal:
      a. W.R. Meadows
   2. Cellular fibers securely bonded together and uniformly saturated with asphalt.
   3. Versatile, resilient, flexible, and non-extruding.
   4. When compressed to half of its original thickness recovery is a minimum of 70%.

E. Match type as indicated on the drawings

F. No recycled products shall be used in either type.

PART 3 EXECUTION

3.01 INSTALLATION

A. Waterstops, General:
   1. Install waterstops in concrete joints where indicated on the Drawings.
   2. Carry waterstops in walls into lower slabs and join to waterstops in slabs with appropriate types of fittings.
   3. In Waterbearing Structures: Provide all joints with waterstops, whether indicated on the Drawings or not.
   4. Provide waterstops that are continuous.
   5. Set waterstops accurately to position and line as indicated on the Drawings.
   6. Hold and securely fix edges in position at intervals of not more than 24 inches so that they do not move during placing of concrete.
   7. Do not drive nails, screws, or other fasteners through waterstops in vicinity of construction joints.
   8. Use wires at not more than 24 inches on centers near outer bulbs to tie waterstops into position.
   9. Special clips may be used in lieu of wires, at CONTRACTOR's option.
   10. Terminate waterstops 3 inches from top of finished surfaces of walls and slabs unless otherwise specified or indicated on the Drawings.
   11. Polyvinyl Chloride Waterstops:
      a. Install waterstops so that joints are watertight.
      b. For joints such as unions, crosses, ells, and tees, field weld with thermostatically controlled equipment recommended by waterstop manufacturer.
      c. Split type waterstop will not be permitted except where specifically indicated on the Drawings.

B. Joints:
   1. Construct expansion, contraction, and construction joints as indicated on the Drawings.
   2. Preformed Expansion Joint Material: Fasten expansion joint strips to concrete, masonry, or forms with adhesive. No nailing will be permitted, nor shall expansion joint strips be placed without fastening.

C. Expanded Polystyrene Joint Filler:
   1. When filler is indicated on the Drawings or specified, place filler in correct position before concrete is placed against filler.
   2. Fill holes and joints in filler with caulking to prevent entry of mortar into joint or passage of mortar or concrete from one side of joint to other.

D. Hardboard:
   1. When indicated on the Drawings, face surface of joint filler with hardboard.
   2. Other facing materials may be used provided they furnish equivalent protection.
   3. Hold boards in place by nails, waterproof adhesive, or other means acceptable to the ENGINEER.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Concrete reinforcement.

1.02 REFERENCES

A. American Concrete Institute (ACI):
   1. 315 - Detailing Manual: Details and Detailing of Concrete Reinforcement.
   2. 318 - Building Code Requirements for Structural Concrete.

B. American Society for Testing and Materials (ASTM):
   1. A143 - Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure, for Detecting Embrittlement.
   2. A185 - Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
   3. A615 - Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
   4. A767 - Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.

C. American Welding Society (AWS):
   1. D1.4 - Structural Welding Code - Reinforcing Steel.

1.03 SYSTEM DESCRIPTION

A. The Drawings contain general notes concerning amount of reinforcement and placing, details of reinforcement at wall corners and intersections, and details of extra reinforcement around openings in concrete.

1.04 SUBMITTALS

A. Shop Drawings:
   1. Shop Drawings on Reinforcing Steel:
      a. Submit to the ENGINEER copy of reinforcing steel detail drawings in accordance with Contract Documents.
      b. Changes to Reinforcing Steel Contract Drawing Requirements:
         1) Indicate in separate letter submitted with shop drawings any changes of requirements indicated on the Drawings for reinforcing steel.
         2) Such changes will not be acceptable unless the ENGINEER has accepted such changes in writing.
      c. Reinforcing steel detail drawings will be reviewed and returned.
      d. Review of shop drawings by the ENGINEER will be limited to general compliance with the Contract Documents.

B. Samples:
   1. Bar Supports: Submit samples of chairs proposed for use along with letter stating where each type chair will be used.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping:
   1. Deliver bars bundled and tagged with identifying tags.

B. Acceptance at Site:
   1. Reinforcing Bars: Reinforcing bars are acceptable with either grade identification marks and/or a manufacturer's guarantee of grade.

1.06 SEQUENCING AND SCHEDULING

A. Bar Supports: Do not place concrete until samples and attached data of bar supports has been reviewed and accepted by the ENGINEER.

PART 2 PRODUCTS

2.01 MATERIALS

A. Reinforcement:
   1. General: Provide reinforcing steel that is new material, of quality specified, free from excessive rust or scale or any defects affecting its usefulness.

B. Reinforcing Bars:

C. Reinforcing Steel Bars to Be Embedded in Concrete or Masonry: Deformed Bars shall be in accordance with ASTM A706 or A615 (conforming to the ductility requirements of A706), including Supplementary Requirement S1, Grade 60, and free from rust, scale, oil, or frost. No. 3 bars may be Grade 40.

   1. Hot-Dip Galvanized Reinforcing Bars:
      a. When reinforcing bars are indicated on the Drawings to be hot-dip galvanized, perform such galvanizing in accordance with ASTM A767 and ASTM A143.
      b. Galvanizing: Galvanize bars in conformance with Class 1 coating and perform galvanizing after fabrication and shearing.
   2. Thread Bars:
      a. Provide thread bars having continuous rolled-in pattern of thread-like deformations along entire length.
      b. Provide hex nuts and couplers for the thread bars that develop 125 percent of yield strength of bar.
      c. Thread Bars:
         1) Conform to ASTM A 615 Grade 60.
         2) Manufacturers: One of the following or equal:
            a) DYWIDAG Systems International, Long Beach, California, DYWIDAG Threadbar.
      d. Do not substitute cut threads on regular reinforcing bars for thread bars.

D. Bar Supports:
   1. Reinforcement Support Chairs:
      a. Hot-dip galvanized steel. Provide hot-dip galvanized steel with plastic tips at surfaces which will be exposed to view. Use unless otherwise indicated on the Drawings.
      b. Stainless Steel where indicated on the Drawings.

E. Tie Wires: Annealed steel.

F. Welded Wire Fabric Reinforcement:
   1. Welded Wire Fabric: ASTM A 185.
   2. Fabric may be used in place of reinforcing bars if only if approved by the ENGINEER in writing.
   3. Provide fabric in flat sheet form.
   4. Provide fabric having cross-sectional area per linear foot of not less than cross-sectional area per linear foot of reinforcing bars indicated on the Drawings.

2.02 FABRICATION

A. Shop Assembly:
   1. Cut and bend bars in accordance with provisions of ACI 315 and ACI 318.
   2. Bend bars cold.
   3. Provide bars free from defects and kinks and from bends not indicated on the Drawings.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:
   1. Reinforcing Bars:
      a. Verify that bars are new stock free from rust scale, loose mill scale, excessive rust, dirt, oil, and other coatings which adversely affect bonding capacity when placed in the work.

3.02 PREPARATION

A. Surface Preparation:
   1. Reinforcing Bars: Thin coating of red rust resulting from short exposure will not be considered objectionable. Thoroughly clean any bars having rust scale, loose mill scale, or thick rust coat.
   2. Cleaning of Reinforcement Materials: Remove concrete or other deleterious coatings from dowels and other projecting bars by wire brushing or sandblasting before bars are embedded in subsequent concrete placement.

3.03 INSTALLATION

A. Reinforcing Bars:
   1. No field bending of new bars will be allowed. Field bending of existing bars will be allowed where shown on the structural drawings. Field bending of the existing bars shall follow the guidelines as shown on the structural drawings.
   2. Welding:
      a. Weld reinforcing bars where indicated on the Drawings or acceptable to the ENGINEER.
      b. Perform welding in accordance with AWS D1.4.

B. Placing Reinforcing Bars:
   1. Accurately place bars and adequately secure them in position.
   2. Overlap bars at splices as specified or indicated on the Drawings.

3. Unless specifically otherwise indicated on the Drawings, install bars at lap splices in contact with each other and fasten bars together with tie wire.
4. If lap splice length for bars in concrete is not specified or indicated on the Drawings, bars shall be lap spliced in accordance with ACI 318.
5. If not specified or indicated on the Drawings and not specified in DIVISION 4, lap splice bars in masonry in accordance with the California Building Code.
6. Bar Supports:
   a. Provide in sufficient number to prevent sagging and to support loads during construction, but in no case less than quantities and at locations as indicated in ACI 315.
   b. Support reinforcing for concrete placed on ground by standard manufactured chairs, with steel plates for resting on ground.
   c. Do not use brick, broken concrete masonry units, spalls, rocks, or similar material for supporting reinforcing steel.
7. If not indicated on the Drawings, provide protective concrete cover in accordance with ACI 318.

C. Tying of Bar Reinforcement:
1. Fasten bars securely in place with wire ties.
2. Tie bars sufficiently often to prevent shifting.
3. There shall be at least 3 ties in each bar length (does not apply to dowel lap splices or to bars shorter than 4 feet, unless necessary for rigidity).
4. Tie slab bars at every intersection around periphery of slab.
5. Tie wall bars and slab bar intersections other than around periphery at not less than every fourth intersection, but at not greater than following maximum spacings:

Bar Size	Slab Bars Spacing (Inches)	Wall Bars Spacing (Inches)
Bars Number 5 and Smaller	60	48
Bars Number 6 through Number 9	96	60
Bars Number 10 and Number 11	120	96

6. After tying wire ties, bend ends of wire ties in towards the center of the concrete section. Wire ties shall conform to the cover requirements of the reinforcing bars.
7. Above tying requirements do not apply to reinforcement for masonry. Refer to DIVISION 4 for tying requirements for masonry.

D. Lap Splices of Reinforcing Bars:
1. Where bars are to be lapped spliced at joints in concrete, ensure bars project from concrete first placed, minimum length equal to lap splice length indicated on the Drawings.
2. Where lap splice length is not indicated on the Drawings, then provide lap splice length as specified in ACI 318 and this Division.

E. Welded Wire Fabric Reinforcement:
1. Install necessary wiring, spacing chairs, or supports to keep welded wire fabric in place while concrete is being placed.
2. Bend fabric as indicated on the Drawings or required to fit work.
3. Unroll or otherwise straighten fabric to make perfectly flat sheet before placing in the Work.
4. Lap splice welded wire fabric as indicated on the Drawings.

5. If lap splice length is not indicated on the Drawings, splice fabric in accordance with ACI 318.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Cast-in-place concrete.

B. Related Sections:
   1. Section 03150 - Concrete Accessories.
   2. Section 03366 - Tooled Concrete Finishes.

1.02 REFERENCES

A. California Building Code (CBC) 2025
B. American Concrete Institute (ACI):
   1. 318 – 19 Building Code Requirements for Structural Concrete.
   2. ACI 301-20
   3. Recommended Practices.

C. American Society for Testing and Materials (ASTM):
   1. C31 - Practice for Making and Curing Concrete Test Specimens in the Field.
   2. C33 - Specification for Concrete Aggregates.
   3. C39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   4. C40 - Test Method for Organic Impurities in Fine Aggregates for Concrete.
   5. C42 - Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
   6. C88 - Test Method of Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
   7. C94 - Specification for Ready-Mixed Concrete.
   8. C114 - Test Methods for Chemical Analysis of Hydraulic Cement.
   9. C131 - Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
   10. C136 - Test Method for Sieve Analysis of Fine and Coarse Aggregates.
   11. C143 - Test Method for Slump of Hydraulic Cement Concrete.
   12. C150 - Specification for Portland Cement.
   13. C157 - Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete.
   14. C172 - Practice for Sampling Freshly Mixed Concrete.
   15. C173 - Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
   16. C203 - Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation.
   17. C227 - Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method).
   18. C260 - Specification for Air-Entraining Admixtures for Concrete.
   19. C289 - Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method).
   20. C309 - Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

21. C311 - Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use as a Mineral Admixture in Portland-Cement Concrete.
22. C469 - Test Method for Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression.
23. C494 - Specification for Chemical Admixtures for Concrete.
24. C595M - Specification for Blended Hydraulic Cements.
25. C618 - Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland-Cement Concrete.
26. D75 - Practices for Sampling Aggregates.

1.03 DEFINITIONS

A. Alkali: Is defined to mean sum of sodium oxide and potassium oxide calculated as sodium oxide.

B. Hairline Crack: Crack with a crack width of less than 4 thousandths of an inch.

1.04 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. General:
      a. Except as otherwise specified, provide concrete composed of portland cement, fine aggregate, coarse aggregate, and water so proportioned and mixed as to produce plastic, workable mixture in accordance with requirements as specified in this Section and suitable to specific conditions of placement.
      b. Proportion materials in manner such as to secure lowest water-cement ratio which is consistent with good workability, plastic, cohesive mixture, and one which is within specified slump range.
      c. Proportion fine and coarse aggregate in manner such as not to produce harshness in placing nor honeycombing in structures.
   2. Watertightness of Concrete Work: It is intent of this Section to secure for every part of the Work concrete and grout of homogeneous structure, which when hardened will have required strength, watertightness, and durability.
      a. It is recognized that some surface hairline cracks and crazing will develop in the concrete surfaces.
      b. Construction, contraction, and expansion joints have been positioned in structures as indicated on the Drawings, and curing methods specified, for purpose of reducing number and size of these expected cracks, due to normal expansion and contraction expected from specified concrete mixes.
      c. Class A, Class B, and Class D Concrete: Watertight: Repair cracks which develop in walls or slabs and repair cracks which show any signs of leakage until all leakage is stopped.
      d. Pressure inject visible cracks, other than hairline cracks and crazing, in following areas with epoxy as approved by the Engineer.
         1) Floors and walls of water bearing structures.
         2) Walls and overhead slabs of passageways or occupied spaces, outsides of which are exposed to weather or may be washed down and are not specified to receive separate waterproof membrane.
         3) Other Items Not Specified to Receive Separate Waterproof Membrane: Slabs over water channels, wet wells, reservoirs, and other similar surfaces.

e. Walls or slabs, as specified above, that leak or sweat because of porosity or cracks too small for successful pressure grouting: Seal on water or weather side by coatings of surface sealant system, as specified in this Section.
f. Grouting and Sealing: Continue as specified above until structure is watertight and remains watertight for not less than one year after final acceptance or date of final repair, whichever occurs later in time.

3. Workmanship and Methods: Provide concrete work, including detailing of reinforcing, conforming with best standard practices and as set forth in ACI 318, Manuals, and Recommended Practices.

1.05 SUBMITTALS

A. Product Data: Submit data completely describing products.

B. Information on Heating Equipment to Be Used for Cold Weather Concreting: Submit information on type of equipment to be used for heating materials and/or new concrete in process of curing during excessively cold weather.

C. For conditions that promote rapid drying of freshly placed concrete such as low Humidity, high temperature, and wind: Submit corrective measures proposed for use prior to placing concrete.

D. Copies of Tests of Concrete Aggregates: Submit certified copies in triplicate of commercial laboratory tests of all samples of concrete aggregates.
1. Fine Aggregate:
   a. Clay lumps.
   b. Reactivity.
   c. Shale and chert.
   d. Soundness.
   e. Color.
   f. Decantation.
2. Coarse Aggregate:
   a. Clay lumps and friable particles.
   b. Reactivity.
   c. Shale and chert.
   d. Soundness.
   e. Abrasion loss.
   f. Coal and ignite.
   g. Materials finer than 200 sieve.

E. Sieve Analysis: Submit sieve analyses of fine and coarse aggregates being used in triplicate at least every 3 weeks and at any time there is significant change in grading of materials.

F. Concrete Mixes: Submit full details, including mix design calculations for concrete mixes proposed for use for each class of concrete.
1. Include information on correction of batching for varying moisture contents of fine aggregate.
2. Submit source quality test records with mix design submittal.
   a. Include calculations for f'cr based on source quality test records.
3. Trial batch results may not be required if adequate, recent test results for the mix design are submitted, meeting all of the requirements of this Specification Section, including the requirements of Section 03300-2.04.

G. If There Is Change in Aggregate Source, or Aggregate Quality from Same Source: Submit new set of design mixes covering each class of concrete.

H. Test Batch Test Data:
   1. Submit data for each test cylinder.
   2. Submit data that identifies mix and slump for each test cylinder.

I. Sequence of Concrete Placing: Submit proposed sequence of placing concrete showing proposed beginning and ending of individual placements.

J. Curing Compound Other than Specified Compound: Submit complete data on proposed compound.

K. Repair of Defective Concrete: Submit mix design for grout.

L. Acceptance of Method of Concrete Repair: Make no repair until the ENGINEER has reviewed and accepted method of preparing surfaces and proposed method of repair.

M. If Either Fine or Coarse Aggregate Is Batched from More than One Bin: Submit analyses for each bin, and composite analysis made up from these, using proportions of materials to be used in mix.

N. Cement Mill Tests: Include alkali content, representative of each shipment of cement for verification of compliance with specified requirements.

O. Pozzolan Certificate of Compliance: Identify source of pozzolan and certify compliance with requirements of ASTM C 618.

P. Information on mixing equipment.

Q. Drying shrinkage test data.

R. Modulus of elasticity test data.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping:
   1. Deliver, store, and handle concrete materials in manner as to prevent damage and inclusion of foreign substances.
   2. Deliver and store packaged materials in original containers until ready for use.
   3. Deliver aggregate to mixing site and handle in such manner that variations in moisture content will not interfere with steady production of concrete of specified degree of uniformity and slump.

B. Acceptance at Site: Reject material containers or materials showing evidence of water or other damage.

1.07 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Hot Weather Concreting:
      a. When Ambient Air Temperature Is above 90 Degrees Fahrenheit: Prior to placing concrete, cool forms and reinforcing steel to by water cooling to below 90 degrees Fahrenheit.

b. Temperature of Concrete Mix at Time of Placement: Keep temperature below 90 degrees Fahrenheit by methods which do not impair quality of concrete.

2. Cold Weather Concreting:
   a. Concrete placed below ambient air temperature of 45 degrees Fahrenheit and falling or below 40 degrees Fahrenheit: Make provision for heating water.
   b. If materials have been exposed to freezing temperatures to degree that any material is below 35 degrees Fahrenheit: Heat such materials.
   c. Heating Water, Cement, or Aggregate Materials:
      1) Do not heat in excess of 160 degrees Fahrenheit.
   d. Protection of Concrete in Forms:
      1) Protect by means of covering with tarpaulins, or other acceptable covering.
      2) Provide means for circulating warm moist air around forms in manner to maintain temperature of 50 degrees Fahrenheit for at least 5 days.
3. For conditions that promote rapid drying of freshly placed concrete such as low humidity, high temperature, and wind: Take corrective measures to minimize rapid water loss from concrete.
   a. Furnish and use sufficient number of maximum and minimum self-recording thermometers to adequately measure temperature around concrete.

1.08 SEQUENCING AND SCHEDULING

A. Schedule placing of concrete in such manner as to complete any single placing operation to construction, contraction, or expansion joint.

B. Schedule placing of concrete such that new concrete pours shall not be poured against existing concrete until the existing concrete is a minimum of 14 days old.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aggregate:
   1. General:
      a. Provide concrete aggregates that are sound, uniformly graded, and free of deleterious material in excess of allowable amounts specified.
      b. Grade aggregate in accordance with ASTM D75 and C136.

      c. Provide unit weight of fine and coarse aggregate which produces in place concrete with weight of not less than 140 pounds per cubic foot.

B. Fine Aggregate:
   1. Provide fine aggregate for concrete or mortar consisting of clean, natural sand or of sand prepared from crushed stone or crushed gravel.
   2. Do not provide aggregate having deleterious substances in excess of following percentages by weight of contaminating substances. In no case shall total exceed percent listed.

Item	Test Method	Percent
Removed by decantation (dirt, silt, etc.)	ASTM C 117	3
Shale or Chert	ASTM C 295	1
Clay Lumps	ASTM C 142	1

3. Except as otherwise specified, grade fine aggregate from coarse to fine in accordance with requirements of ASTM C33.

C. Coarse Aggregate:
1. General: Provide coarse aggregate consisting of gravel or crushed stone made up of clean, hard, durable particles free from calcareous coatings, organic matter, or other foreign substances.
2. Weight: Not exceeding 15 percent, for thin or elongated pieces having length greater than 5 times average thickness.
3. Deleterious Substances: Not in excess of following percentages by weight, and in no case having total of all deleterious substances exceeding 2 percent.

Item	Test Method	Percent
Shale or chert	ASTM C 295	1
Coal and lignite	ASTM C 123	1/4
Clay lumps and friable particles	ASTM C 142	1/4
Materials finer than Number 200 sieve	ASTM C 117	1/2*
* Except when material finer than Number 200 sieve consists of crusher dust, maximum amount shall be 1 percent.		

4. Grading:
   a. Aggregate: As specified in ASTM C33, Size Number 57, except as otherwise specified or authorized in writing by the ENGINEER.
   b. Aggregate for Class CE Concrete for Encasement of Electrical Conduits:
      1) Graded as specified in ASTM C33, Size Number 8.
      2) Provide concrete utilizing this aggregate equal to Class C concrete in all other respects, and is designated as Class CE.

D. Portland Cement:
1. General: Conform to specifications and tests for ASTM C150, Types II modified/ Type V, Low Low Alkali, except as specified otherwise.
2. Exposed Concrete in Any Individual Structure: Use only one brand of portland cement.
3. Cement for Finishes: Provide cement from same source and of same type as concrete to be finished.

E. Admixtures:
1. General:
   a. Do not use admixtures of any type, except as specified, unless written authorization has been obtained from the ENGINEER.
   b. Compatible with concrete and other admixtures.

c. Do not use admixtures containing chlorides calculated as chloride ion in excess of 0.5 percent by weight.
d. Use in accordance with manufacturer's recommendations and add each admixture to concrete mix separately.

2. Air Entraining Admixture:
   a. Provide all concrete with 5 percent, plus or minus 1 percent, entrained air of evenly dispersed air bubbles at time of placement.
   b. Conform to ASTM C 260.
3. Fly Ash Pozzolan Admixture:
   a. Pozzolan:
      1) Conforming to requirements of ASTM C618, Class F, may be used as admixture in concrete made with Type II Portland cement.
      2) Pozzolan may replace portland cement at ratio of 1.0 pound fly ash for each pound of portland cement replaced.
      3) Maximum of 15 percent by weight of minimum quantities of portland cement listed in Table A under paragraph 2.03E may be replaced with pozzolan.
      4) Do not use pozzolan as an admixture in concrete made with portland-pozzolan cement.
   b. Loss on Ignition for Pozzolan: Not exceed four percent.
4. Water Reducing Admixture:
   a. May be used at the CONTRACTOR's option.
   b. Conform to ASTM C494, Type A or Type D.
   c. Not contain air entraining agents.
   d. Liquid form before adding to the concrete mix.
   e. No decrease in cement is permitted as result of use of water reducing admixture.
5. Superplasticizers: Are not to be used without review and approved by ENGINEER in writing.

F. Water:
1. Water for Concrete, Washing Aggregate, and Curing Concrete: Clean and free from oil and deleterious amounts of alkali, acid, organic matter, or other substances.
2. Chlorides and Sulfate Ions:
   a. Water for Conventional Reinforced Concrete: Use water not containing more than 1,000 milligrams per liter of chlorides calculated as chloride ion, nor more than 1,000 milligrams per liter of sulfates calculated as sulfate ion.
   b. Water for Prestressed or Post-tensioned Concrete: Use water not containing more than 650 milligrams per liter of chlorides calculated as chloride ion, nor more than 800 milligrams per liter of sulfates calculated as sulfate ion.

G. Nonslip Abrasive:
1. Type: Aluminum oxide abrasive of size 8/16, having structure of hard aggregate, homogenous, nonglazing, rustproof, and unaffected by freezing, moisture, or cleaning compounds.
2. Manufacturers: One of the following or equal:
   a. Washington Mills, Niagara Falls, New York.
   b. Abrasive Materials, Incorporated, Hillsdale, Michigan.

H. Concrete Sealer:
1. Manufacturers: One of the following or equal:
   a. ChemMasters, Madison, OH, Spray-Cure & Seal 25
   b. A. C. Horn, Inc., Horn Clear Seal EM-180.

I. Conduit Encasement Coloring Agent:
   1. Color: Red color concrete used for encasement of electrical ducts, conduits, similar type items.
   2. Manufacturers: One of the following or equal.
      a. Davis Colors, Tile Red.
      b. I. Reiss Company, Inc., equivalent product.

J. Keyway Material: Steel, plastic, or lumber.

K. Sprayed Membrane Curing Compound: Clear type with fugitive dye conforming to ASTM C309, Type 1D.

L. Surface Sealant System: Manufacturers: One of the following or equal:
   1. Radcon Laboratories, Inc., Las Vegas, Nevada, Formula Number 7.
   2. IPA Systems, Philadelphia, Pennsylvania, Duripal.

2.02 EQUIPMENT

A. Mixing Concrete:
   1. Mixers may be of stationary plant, paver, or truck mixer type.
   2. Provide adequate equipment and facilities for accurate measurement and control of materials and for readily changing proportions of material.
   3. Mixing Equipment:
      a. Capable of combining aggregates, cement, and water within specified time into thoroughly mixed and uniform mass and of discharging mixture without segregation.
      b. Maintain concrete mixing plant and equipment in good working order and operated at loads, speeds, and timing recommended by manufacturer or as specified.
      c. Proportion cement and aggregate by weight.

B. Machine Mixing:
   1. Batch plant shall be capable of controlling delivery of all material to mixer within 1 percent by weight of individual material.
   2. If bulk cement is used, weigh it on separate visible scale which will accurately register scale load at any stage of weighing operation from zero to full capacity.
   3. Prevent cement from coming into contact with aggregate or with water until materials are in mixer ready for complete mixing with all mixing water.
   4. Procedure of mixing cement with sand or with sand and coarse aggregate for delivery to project site, for final mixing and addition of mixing water will not be permitted.
   5. Retempering of concrete will not be permitted.
   6. Discharge entire batch before recharging.
   7. Volume of Mixed Material per Batch: Not exceed manufacturer's rated capacity of mixer.
   8. Mixers:
      a. Perform mixing in batch mixers of acceptable type.
      b. Equip each mixer with device for accurately measuring and indicating quantity of water entering concrete, and operating mechanism such that leakage will not occur when valves are closed.
      c. Equip each mixer with device for automatically measuring, indicating, and controlling time required for mixing.

1) Interlock device to prevent discharge of concrete from mixer before expiration of mixing period.

C. Transit-mixed Concrete:
1. Mix and deliver in accordance with ASTM C94.
2. Total Elapsed Time Between Addition of Water at Batch Plant and Discharging Completed Mix: Not to exceed 90 minutes or elapsed time at project site shall not exceed 30 minutes.
3. Under conditions contributing to quick setting, total elapsed time permitted may be reduced by the ENGINEER.
4. Equip each truck mixer with device interlocked so as to prevent discharge of concrete from drum before required number of turns and furnish such device that is capable of counting number of revolutions of drum.
5. Continuously revolve drum after it is once started until it has completely discharged its batch.
   a. Do not admit water until drum has started revolving.
   b. Right is reserved to increase required minimum number of revolutions or to decrease designated maximum number of revolutions allowed, if necessary, to obtain satisfactory mixing. The CONTRACTOR will not be entitled to additional compensation because of such increase or decrease.

D. Other Types of Mixers:
1. In Case of Other Types of Mixers, Mixing Shall Be as Follows:
   a. Mix concrete until there is uniform distribution of materials, and discharge mixer completely before recharging.
   b. Neither speed nor volume loading of mixer shall exceed manufacturer's recommendations.
   c. Continue mixing for minimum of 1-1/2 minutes after all materials are in drum, and for batches larger than one cubic yard increase minimum mixing time 15 seconds for each additional cubic yard or fraction thereof.

2.03 MIXES

A. Measurements of Materials:
1. Measure materials by weighing, except as otherwise specified or where other methods are specifically authorized in writing by the ENGINEER.
2. Furnish apparatus for weighing aggregates and cement that is suitably designed and constructed for this purpose.
3. Accuracy of Weighing Devices: Furnish devices that have capability of providing successive quantities of individual material that can be measured to within one percent of desired amount of that material.
4. Measuring or Weighing Devices: Subject to review by the ENGINEER, and bear valid seal of the Sealer of Weights and Measures having jurisdiction.
5. Weighing Cement:
   a. Weigh cement separately.
   b. Cement in Unbroken Standard Packages (Sacks): Need not be weighed.
   c. Bulk Cement and Fractional Packages: Weigh such cement.
6. Mixing Water: Measured by volume or by weight.

B. Concrete Proportions and Consistency:
1. Concrete Consistency and Composition:
   a. Provide concrete that can be worked readily into corners and angles of forms and around reinforcement without excessive vibration and without permitting materials to segregate or free water to collect on surface.

b. Prevent unnecessary or haphazard changes in consistency of concrete.
2. Ratio of Coarse Aggregate to Fine Aggregate: Not less than 1.0 nor more than 2.0 for all concrete Classes, with exception of Class CE.
3. Aggregate:
   a. Obtain aggregate from source which is capable of providing uniform quality, moisture content, and grading during any single day's operation.
4. Concrete Mix Water to Cement Ratio, Minimum Cement Content, and Slump Range: Conform to values specified in Table A in this Section.
5. Concrete Batch Weights: Control and adjust so as to secure maximum yield, and at all times maintain proportions of concrete mix within specified limits.
6. Mixture Modification: If required, by the ENGINEER, modify mixture within limits set forth in this Section.

C. Concrete Mixes:
1. Proportioning of Concrete Mix: Proportion mixes on required average on compressive strength f'cr as defined in Subparagraph 2.04A2.
2. Mixes:
   a. Adjusting of Water: After acceptance, do not change mixes without acceptance by ENGINEER, except that at all times adjust batching of water to compensate for free moisture content of fine aggregate.
   b. Total Water Content of Each Concrete Class: Not exceed those specified in Table A in this Section.
   c. Checking Moisture Content of Fine Aggregate: Furnish satisfactory means at batching plant for checking moisture content of fine aggregate.
3. Change in Mixes: Undertake new trial batch and test program as specified in this Section.

D. Hand Mixed Concrete:
1. Hand mix concrete only when acceptable to the ENGINEER.
2. Prepare hand mixed concrete on watertight, level platform in batches not to exceed 1/3 cubic yard each.
3. Aggregate:
   a. First spread required amount of coarse aggregate on platform in an even and uniform layer, and then over such aggregate spread proper proportion of fine aggregate.
   b. Combined Depth of Both Such Layers: Not be greater than one foot.
4. Cement:
   a. First evenly spread required quantity of cement over fine aggregate.
   b. Then turn entire batch with shovels at least twice before adding water.
5. Water:
   a. Then uniformly sprinkle or spray proper amount of water over batched materials.
   b. Then turn with shovels not less than three times before being removing from platform.

E. Classes of Concrete:
1. Provide concrete consisting of 5 classes, referred herein as Classes A, B, C, D, and CE specified in this Section and use where specified or indicated on the Drawings.
2. Weight of Concrete Classes: Provide classes of concrete having minimum weight of 140 pounds per cubic foot.
3. Class B Concrete: Class B concrete may be substituted for Class A concrete, when high-early strength concrete is needed in areas specifically reviewed and approved by the ENGINEER and that do not require sulfate resistant concrete.

4. Class C Concrete: Class C concrete may be used for fill for unauthorized excavation, for thrust blocks and ground anchors for piping, for bedding of pipe, and where indicated on the Drawings.
5. Class D Concrete: Use Class D for precast concrete items.
6. Class CE Concrete: Use Class CE for electrical conduit encasements.
7. All other concrete, unless specified or otherwise indicated on the Drawings: Use Class A concrete.

"TABLE A

CONCRETE
WITH AIR ENTRAINMENT

Class	Specified Compressive Strength f'c at 28 Days (Pounds per Square Inch)	Maximum Net Water to Cement Ratio	Minimum Cement per Cubic Yard of Concrete by Weight (Pounds)	Slump Range (Inches)
A	4,000	0.45	564	2 to 4*
B (Type III cement)	4,000	0.45	564	2 to 4*
C	2,500	0.62	423	3 to 6
D	4,500	0.45	658	2 to 4
CE	2,500	0.62	564	3 to 6
* NOTE: Slump for slabs, decks, walks, and beams shall be not more than 3-1/2 inches.				

8.
8. Pumped Concrete: Provide pumped concrete that complies with all requirements of this Section.
9. Do not place concrete with slump outside limits indicated in Table A.
10. Classes:
    a. Classes A, C, D, and CE Concrete: Make with Type II or modified Type V low alkali cement.
    b. Class B Concrete: Make with Type III low alkali cement.
    c. Admixtures: Provide admixtures as specified in this Section.

F. Air Entraining Admixture:
1. Add agent to batch in portion of mixing water.
2. Batch solution by means of mechanical batcher capable of accurate measurement.

2.04 SOURCE QUALITY CONTROL

A. Tests:
1. Concrete Mixes:
    a. After concrete mixes have been reviewed and accepted by ENGINEER, have trial batches of the accepted Class A, Class B, and Class D concrete mix designs prepared by testing laboratory acceptable to the ENGINEER.
    b. Prepare trial batches by using specified cement and aggregates proposed to be used for the Work.

c. Trial Batches: Provide batches of sufficient quantity to determine slump, workability, consistency, and finishing characteristics, and to provide sufficient test cylinders.
d. Test Cylinders: Provide cylinders having six inch diameter by 12 inch length and that are prepared in accordance with ASTM C31 for tests specified in this Section.
e. Determine slump in accordance with ASTM C143.
f. Test Cylinders from Trial Batch:
    1) Test 8 cylinders for compressive strength in accordance with ASTM C39.
        a) Test 4 cylinders at 7 days and 4 at 28 days.
        b) Establish ratio between 7 day and 28 day strength for mix. Seven day strength may be taken as satisfactory indication of 28 day strength upon review and approval by the Engineer provided effects on concrete of temperature and humidity between 7 day and 28 day are taken into account.
    2) Average Compressive Strength of 4 Test Cylinders Tested at 28 Days: Equal to or greater than required average compressive strength f'cr on which concrete mix design is based.
g. Drying Shrinkage:
    1) Prepare 5 drying shrinkage specimens in accordance with ASTM C157, except as modified herein.
    2) Remove drying shrinkage specimens from molds at age of 23 hours plus or minus 1 hour after trial batching, then immediately place them in water at 73 degrees Fahrenheit plus or minus 3 degrees for at least 30 minutes and then measure specimens within 30 minutes thereafter to determine original length. Then submerge specimens in saturated lime water at 73 degrees Fahrenheit plus or minus three degrees for moist curing.
    3) Make measurement to determine expansion expressed as percentage of original length at age 7 days. Use length at age 7 days as base length for drying shrinkage calculations.
    4) Immediately store specimens in humidity controlled room maintained at 73 degrees Fahrenheit plus or minus 3 degrees and 50 percent plus or minus 4 relative humidity for remainder of test.
    5) Make and report measurements to determine shrinkage expressed as percentage of base length separately for 7, 14, 21, and 28 days of drying after 7 days of moist curing.
    6) Drying Shrinkage Deformation:
        a) Measure drying shrinkage deformation of each specimen as difference between base length and length after drying at each test age.
        b) Measure average drying shrinkage deformation of specimens to nearest 0.0001 inch at each test age.
        c) If drying shrinkage of any specimen departs from average of test age by more than 0.0004 inch, disregard results obtained from that specimen and test another specimen.
        d) Shrinkage of trial batch concrete at 28 days drying age shall not exceed 0.045 percent maximum.
h. If trial batch tests do not meet specified requirements for slump, strength, workability, consistency, drying shrinkage**,** and finishing, change concrete mix design proportions and, if necessary, source of aggregate. Make additional trial batches and tests until an acceptable trial batch is produced that meets requirements of this Section.

i. Perform test batches and tests required to establish trial batches and acceptability of materials without change in Contract Price.
j. Do not place concrete until the concrete mix design and trail batch have been reviewed and approved by ENGINEER.

2. Required Average Compressive Strength:
   a. Determine required average compressive strength (f'cr) for selection of concrete proportions for mix design, for each class of concrete, using calculated standard deviation and its corresponding specified compressive strength f'c, in accordance with ACI 318 and ACI 350, Part 3, Chapter 5.
   b. When test records of at least 30 consecutive tests that span period of not less than 45 calendar days are available, establish standard deviation as described in ACI 318 and ACI 350, Part 3, Chapter 5 and as modified as follows herein.
   c. Provide test records from which to calculate standard deviation that represent materials, quality control procedures, and conditions similar to materials, quality control procedures, and conditions expected to apply in preparation of concrete for the Work.
   d. Provide changes in materials and proportions within test records that are more restricted than those for the Work.
   e. Specified Compressive Strength (f'c) of Concrete Used in Test Records: Within 1,000 pounds per square inch of that specified for the Work.
   f. When lacking adequate test records for calculation of standard deviation meeting requirements, determine required average compressive strength f'cr from following Table B.

TABLE B

Specified Compressive Strength f'c (pounds per square inch)	Required Average Compressive Strength f'cr (pounds per square inch)
Less than 3,000	f'c + 1,000
3,000 to 5,000	f'c + 1,200
Over 5,000	1.10f'c + 700

3. Pozzolan:
   a. Sampling and Testing:
      1) Sample and test pozzolan in accordance with ASTM C311.
      2) In Computing Water to Cement Ratio and Cement Content per Cubic Yard Of Concrete: Consider cement weight to be weight of portland cement plus 100 percent of weight of fly ash.
4. Aggregate:
   a. Testing of concrete aggregate is at CONTRACTOR's expense.
   b. Sieves:
      1) Use sieves with square openings for testing grading of aggregates.
      2) Sieve Analyses: If sieve analyses indicate significant change in materials, the ENGINEER may require that new mix design be submitted and accepted before further placing of concrete.
   c. Sample aggregate in accordance with ASTM D 75 and C 136.
   d. Fine Aggregate:

1) Provide fine aggregate not containing strong alkali nor organic matter which gives color darker than standard color when tested in accordance with ASTM C 40.
2) Provide aggregate having soundness complying with requirements of ASTM C 33 when tested in accordance with ASTM C88.
3) Provide aggregate complying with reactivity requirements of ASTM C33 when tested in accordance with ASTM C 289.

e. Coarse Aggregate:
1) Soundness when tested in accordance with ASTM C88: Have loss not greater than 10 percent when tested with sodium sulfate.
2) Abrasion Loss: Not exceed 45 percent after 500 revolutions when tested in accordance with ASTM C131.
3) Reactivity: Not exceed limits specified in Appendix of ASTM C33 when tested in accordance with ASTM C289.

f. Portland Cement:
1) Determination Alkali Content: Determine by method set forth in ASTM C 114.

PART 3 EXECUTION

3.01 INSTALLATION

A. Conduit Encasement Concrete: Mix into each cubic yard of concrete 10 pounds of coloring agent.

B. Joints and Bonding:
1. As far as practicable construct concrete work as monolith.
2. Locations of contraction, construction, expansion, and other joints are indicated on the Drawings or as specified in this Section.
3. For all structures:
1) Provide not less than 14 days between placement of concrete in adjacent concrete wall placements.
2) Place concrete for slabs in checker board pattern with not less than 14 days between placement of concrete in adjacent concrete slab placements.
4. Construction Joints:
a. Where construction joints are not indicated on the Drawings, provide slabs and walls with construction joints at intervals not greater than 30 feet. Contractor to submit construction joint plan to Engineer for review.
b. In order to preserve strength and water tightness of structures, make no other joints, except as authorized the ENGINEER.
c. At construction joints, thoroughly clean concrete of laitance, grease, oil, mud, dirt, curing compounds, mortar droppings, or other objectionable matter by means of heavy sandblasting, and wash surfaces just prior to succeeding concrete placement.
d. At Horizontal Joints: Immediately prior to resuming concrete placing operations, thoroughly spread bed of grout not less than 1/2 inch in thickness nor more than 1 inch in thickness over horizontal joint surfaces.
5. Keyways in Joints:
a. Provide keyways in joints as indicated on the Drawings.
b. Treat lumber keyway material with form release coating, applied in accordance with manufacturer's instructions.
6. Take special care to ensure that concrete is well consolidated around and against waterstops and that waterstops are secured in proper position.

7. Cleaning of Construction Joints:
    a. Wash construction joints free of sawdust, chips, and other debris after forms are built and immediately before concrete or grout placement.
    b. Should formwork confine sawdust, chips, or other loose matter in such manner that it is impossible to remove them by flushing with water, use vacuum cleaner for their removal, after which flush cleaned surfaces with water.
    c. Provide cleanout hole at base of each wall and column for inspection and cleaning.
8. Expansion, Contraction, and Construction Joints
    a. Constructed where and as indicated on the Drawings.
    b. Waterstops, Expansion Joint Material, Synthetic Rubber Sealing Compound, and Other Similar Materials: As specified in Sections 03150 and 07900.
    c. Expanded metal forms intended to be left in place shall not be used for construction joints.
9. Repair of Concrete: Where it is necessary to repair concrete by bonding mortar or new concrete to concrete which has reached its initial set, first coat surface of set concrete with epoxy bonding agent as approved by the Engineer.

C. Conveying and Placing Concrete:
1. Convey concrete from mixer to place of final deposit by methods which prevent separation or loss of materials.
2. Use equipment for chuting, pumping, and conveying concrete of such size and design as to ensure practically continuous flow of concrete at delivery end without separation of materials.
3. Design and use chutes and devices for conveying and depositing concrete that direct concrete vertically downward when discharged from chute or conveying device.
4. Keep equipment for conveying concrete thoroughly clean by washing and scraping upon completion of any day's placement.

D. Placing Concrete:
1. Place no concrete without prior authorization of the ENGINEER.
2. Do Not Place Concrete Until:
    a. Reinforcement is securely and properly fastened in its correct position and loose form ties at construction joints have been retightened.
    b. Dowels, bucks, sleeves, hangers, pipes, conduits, bolts, and any other fixtures required to be embedded in concrete have been placed and adequately anchored.
    c. Forms have been cleaned and oiled as specified.
3. Placement of concrete in which initial set has occurred, or of retempered concrete, will not be permitted.
4. Place no concrete during rainstorms or high velocity winds.
5. Protect concrete placed immediately before rain to prevent water from coming in contact with such concrete or winds causing excessive drying.
6. Keep sufficient protective covering on hand at all times for protection of concrete.
7. After acceptance, adhere to proposed sequence of placing concrete, except when specific changes are requested and accepted by the ENGINEER.
8. Notify the ENGINEER in writing of readiness, not just intention, to place concrete in any portion of the work.
    a. Provide this notification in such time in advance of operations as the ENGINEER deems necessary to make final inspection of preparations at location of proposed concrete placing.

b. Place forms, steel, screeds, anchors, ties, and inserts in place before notification of readiness is given to the ENGINEER.
c. Depositing Concrete:
1) Deposit concrete at or near its final position to avoid segregation caused by rehandling or flowing.
2) Do not deposit concrete in large quantities in one place and work along forms with vibrator or by other methods.
3) Do not drop concrete freely into place from height greater than 5 feet.
4) Use tremies for placing concrete where drop is over 5 feet.
5) Commence placement of concrete on slopes, at bottom of slope.

9. Place concrete in approximately horizontal layers not to exceed 24 inches in depth and bring up evenly in all parts of forms.
10. Continue concrete placement without avoidable interruption, in continuous operation, until end of placement is reached.
11. If more than 20 minutes lapse prior to placement of new concrete over concrete previously placed, reduce depth of layers being placed at one time, and/or increase placing equipment, until it is possible to return with placing operation to previously placed concrete within 20 minutes.
12. If concrete is to be placed over previously placed concrete and more than 20 minutes have elapsed, then spread layer of grout not less than 1/2 inch in thickness nor more than 1 inch in thickness over surface before placing additional concrete.
13. Placement of Concrete for Slabs, Beams, or Walkways:
a. If cast monolithically with walls or columns, do not commence until concrete in walls or columns has been allowed to set and shrink.
b. Allow set time of not less than one hour for shrinkage.

E. Consolidating Concrete:
1. Place concrete with aid of acceptable mechanical vibrators.
2. Thoroughly consolidate concrete around reinforcement, pipes, or other shapes built into the work.
3. Provide sufficiently intense vibration to cause concrete to flow and settle readily into place and to visibly affect concrete over radius of at least 18 inches.
4. Vibrators:
a. Keep sufficient vibrators on hand at all times to vibrate concrete as placed.
b. In addition to vibrators in actual use while concrete is being placed, have on hand minimum 1 spare vibrator in serviceable condition.
c. Place no concrete until it has been ascertained that all vibrating equipment, including spares, are in serviceable condition.
5. Take special care to place concrete solidly against forms so as to leave no voids.
6. Take every precaution to make concrete solid, compact, and smooth, and if for any reason surfaces or interiors have voids or are in any way defective, repair such concrete in manner acceptable to the ENGINEER.

F. Footings and Slabs on Grade:
1. Do not place concrete on ground or compacted fill until subgrade is in moist condition acceptable to the ENGINEER.
2. If necessary, sprinkle subgrade with water not less than 6 nor more than 20 hours in advance of placing concrete.
3. If it becomes dry prior to actual placing of concrete, sprinkle again, without forming pools of water.
4. Place no concrete if subgrade is muddy or soft.

G. Loading Concrete:

1. Green Concrete:
    a. No heavy loading of or drilling of epoxy anchors on or in green concrete will be permitted.
    b. Green concrete is defined as concrete with less than 100 percent of the specified strength.
2. No backfill shall be placed against concrete walls until the concrete has reached the specified strength and the connecting slabs and beams have been cast and have reached the specified strength.
3. Use construction methods, sequencing, and allow time for concrete to reach adequate strength to prevent overstress of the concrete structure during construction.

H. Curing Concrete:
1. General:
    a. Cure concrete by methods specified in this Section.
    b. Cure concrete minimum of 7 days.
    c. Cure concrete to be painted with water or plastic membrane.
    d. Do not use curing compound on concrete surfaces that are to receive paint or upon which any material is to be bonded.
    e. Water cure or plastic membrane cure concrete slabs which are specified to be sealed by concrete sealer.
    f. Cure other concrete by water curing or sprayed curing membrane at the CONTRACTOR's option.
    g. Floor slabs may be cured using plastic membrane curing.
2. Water Curing:
    a. Keep surfaces of concrete being water cured constantly and visibly moist day and night for period of not less than 7 days.
    b. Each day forms remain in place may count as 1 day of water curing.
    c. No further curing credit will be allowed for forms in place after contact has once been broken between concrete surface and forms.
    d. Do not loosen form ties during period when concrete is being cured by leaving forms in place.
    e. Flood top of walls with water at least 3 times per day, and keep concrete surfaces moist at all times during 7 day curing period.
3. Sprayed Membrane Curing:
    a. Apply curing compound to concrete surface after repairing and patching, and within 1 hour after forms are removed.
    b. If more than 1 hour elapses after removal of forms, do not use membrane curing compound, but apply water curing for full curing period.
    c. If surface requires repairing or painting, water cure such concrete surfaces.
    d. Curing Compound:
        1) Do not remove curing compound from concrete in less than 7 days.
        2) Curing compound may be removed only upon written request by the CONTRACTOR and acceptance by the ENGINEER, stating what measures are to be performed to adequately cure structures.
        3) Take care to apply curing compound in area of construction joints to see that curing compound is placed within construction joint silhouette.
        4) Remove curing compound placed within construction joint silhouette by heavy sandblasting prior to placing any new concrete.
        5) CONTRACTOR's Option: Instead of using curing compound for curing of construction joints such joints may be water cured.
        6) Apply curing compound by mechanical, power operated sprayer and mechanical agitator that will uniformly mix all pigment and compound.
        7) Apply compound in at least 2 coats.

8) Apply each coat in direction 90 degrees to preceding coat.
9) Apply compound in sufficient quantity so that concrete has uniform appearance and that natural color is effectively and completely concealed at time of spraying.
10) Continue to coat and recoat surfaces until specified coverage is achieved and until coating film remains on concrete surfaces.
11) Thickness and Coverage of Compound: Provide compound having film thickness that can be scraped from surfaces at any and all points after drying for at least 24 hours.
12) The CONTRACTOR is cautioned that method of applying curing compound specified herein may require more compound than normally suggested by manufacturer of compound and also more than is customary in the trade.
13) Apply amounts specified herein, regardless of manufacturer's recommendations or customary practice, if curing compound is used in place of water curing.
14) If the CONTRACTOR desires to use curing compound other than specified compound, coat sample areas of concrete wall with proposed compound and also similar adjacent area with specified compound in specified manner for comparison.
    a) If proposed sample is not equal or better, in opinion of the ENGINEER, in all features, proposed substitution will not be allowed.
15) Prior to final acceptance of the work, remove, by sandblasting or other acceptable method, any curing compound on surfaces exposed to view, so that only natural color of finished concrete is visible uniformly over entire surface.

4. Plastic Membrane Curing:
   a. Polyethylene film may be used to cure slabs. Seal joints and edges with small sand berm.
   b. Install plastic membrane as soon as concrete is finished and can be walked on without damage.
   c. Keep concrete moist under plastic membrane.

3.02 CONCRETE FINISHING

A. Provide concrete finishes in accordance with Section 03366 and the Concrete Finish Schedule indicated on the Drawings.

B. Edges of Joints:
   1. Provide joints having edges as indicated on the Drawings.
   2. Protect wall and slab surfaces at edges against concrete spatter and thoroughly clean upon completion of each placement.

C. Surface Sealant System: Apply as recommended by manufacturer published instructions. Where concrete continues to sweat or leak, apply additional coats of surface sealant until the sweating or leaks stop.
   1. Apply Surface Sealant to the Following Surfaces:
      a. None.

D. Concrete Sealer:
   1. Surfaces to Receive Sealer:
      a. Interior and exterior slabs and walls.
      b. Interior and exterior concrete slabs and walls in trenches.

2. Floors and Slabs to Receive Sealer: Also, as specified in Division 9 on finish schedule.
3. Seal Floors:
    a. All Floor Slabs Except for the Following:
        1) Those indicated on the Drawings to receive seamless Floor surfacing.
4. Apply Sealant:
    a. Apply sealant at coverage rate not to exceed 500 square feet per gallon.
    b. Apply as soon as slab or floor will bear weight.
    c. Sealer:
        1) Before applying sealer, sweep entire surface clean with very soft bristled brush which will not mark finish.
        2) Apply sealer with large, clean, mop type applicator.
        3) Paint rollers are not acceptable.
        4) Workmen shall wear flat soled shoes which will not mark or scar surface.
        5) Do not allow traffic on floors and slabs until sealer has dried and hardened.

3.03 FIELD QUALITY CONTROL

A. CONTRACTOR Responsibilities:
1. During progress of construction, the CONTRACTOR shall have tests made to determine whether the concrete, as being produced, complies with requirements specified.
    a. CONTRACTOR shall perform his own quality control testing to satisfy himself materials meet project requirements. CONTRACTOR relies on OWNER test results at his sole risk and is responsible to ensure all materials meet project requirements independent of OWNER's testing.
2. Test slump of concrete using slump cone in accordance with requirements of ASTM C143.
    a. Furnish test equipment.
    b. Do not use concrete that does not meet specification requirements in regards to slump, but remove such concrete from project site.
    c. Test slump at the beginning of each placement, as often as necessary to keep slump within the specified range, and when requested to do so by the ENGINEER.
3. Contractor shall make accommodations for all OWNER testing.
4. Make provisions for and furnish concrete for test specimens, and provide manual assistance to the ENGINEER in preparing said specimens.
5. Assume responsibility for care of and providing of curing conditions for test specimens in accordance with ASTM C 31.
6. Do not use concrete that does not meet Specification requirements as to air entrainment and shall remove such concrete from project site.

B. Testing by OWNER:
1. Tests will be performed in accordance with ASTM C31, ASTM C39, and ASTM C172.
2. The Inspector shall make and deliver test cylinders to the laboratory and testing expense will be borne by the OWNER.
3. Required Number Cylinders as noted below or as set by the Construction Manager:
    a. Not less than 5 cylinder specimens, 6 inch diameter by 12 inch long, will be tested for each 150 cubic yards of each class of concrete with minimum of

5 four specimens for each class of concrete placed and not less than 5 specimens for each half day's placement.
   b. One cylinder will be broken at 7 days and 2 at 28 days and 1 held in reserve.
4. Air Entraining Admixture:
   a. Test percent of entrained air in concrete at beginning of each placement, as often as necessary to keep entrained air within specified range, and when requested to do so by the ENGINEER.
   b. Provide test equipment.
   c. Test air entrainment in concrete in accordance with ASTM C173.
   d. The ENGINEER may at any time test percent of entrained air in concrete received on project site.

C. Enforcement of Strength Requirement:
1. Concrete is expected to reach higher compressive strength than that which is indicated in Table A as specified compressive strength f'c.
2. Strength Level of Concrete: Will be considered acceptable if following conditions are satisfied.
   a. Averages of all sets of 3 consecutive strength test results is greater or equal to specified compressive strength f'c.
   b. No individual strength test (average of 2 cylinders) falls below specified compressive strength f'c by more than 500 pounds per square inch.
   c. Whenever one, or both, of 2 conditions stated above is not satisfied, provide additional curing of affected portion followed by cores taken in accordance with ASTM C 42 and ACI 318 and comply with following requirements:
      1) If additional curing does not bring average of 3 cores taken in affected area to at least specified compressive strength f'c, designate such concrete in affected area as defective.
      2) The ENGINEER may require the CONTRACTOR to strengthen defective concrete by means of additional concrete, additional reinforcing steel, or replacement of defective concrete, all of the CONTRACTOR's expense.

3.04 ADJUSTING

A. Repair of Defective Concrete:
1. Remove and replace or repair defective work.
2. Correct defective work as specified in this Article.
3. Do not patch, repair, or cover defective work without inspection by the ENGINEER.
4. Provide repairs having strength equal to or greater than specified concrete for areas involved.
   a. Chip out and key imperfections in the work and make them ready for repair.
5. Dry Pack Method:
   a. Dry Pack Method: Use for holes having depth nearly equal to or greater than least surface dimension of hole, for cone-bolt, and narrow slots cut for repair.
   b. Smooth Holes: Clean and roughen by heavy sandblasting before repair.
6. Mortar Method of Replacement: Use for following:
   a. Holes too wide to dry pack and too shallow for concrete replacement.
   b. Comparatively shallow depressions, large or small, which extend no deeper than reinforcement nearest surface.
7. Concrete Replacement:
   a. Use: When holes extend entirely through concrete section or when holes are more than 1 square foot in area and extend halfway or more through the section.

b. Method of Repair for Surfaces of Set Concrete to be Repaired: First coat with epoxy bonding agent.

8. Acceptable Method of Concrete Repair:
   a. Make no repair until the ENGINEER has accepted method of preparing surfaces and proposed method of repair.

END OF SECTION

SECTION 03366

TOOLED CONCRETE FINISHES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Tooled concrete finishes.

1.02 QUALITY ASSURANCE

A. Mock-ups:
   1. Test Panels for Concrete Finishes:
      a. Prepare test panels for F4 and F5 finishes and tie-hole repairs for review by ENGINEER.
      b. Accepted panels shall serve as standard of quality and workmanship for project.
   2. Test Panels Showing Horizontal and Vertical Joints: Prepare test panel showing horizontal and vertical joints proposed for project for review by the ENGINEER. Refer to finishes as specified in this Section.
   3. Test Panels Indicating Methods for Making Concrete Repairs: Prepare test panels for proposed repairs at beginning of project for review by ENGINEER.
      a. Panels shall serve as standard for repairs during the project.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping:
   1. Deliver and store packaged materials in original containers until ready for use.

PART 2 PRODUCTS

2.01 MIXES

A. Mortar Mix for F4 Finish: Consist of 1 part cement and 1-1/2 parts of fine sand passing Number 100 screen, mixed with enough water and emulsified bonding agent to have consistency of thick cream.

B. Mortar Mix for F5 Finish: Consist of 1 part cement to 1-1/2 parts of sand which passes Number 16 screen.

PART 3 EXECUTION

3.01 CONCRETE FINISHING

A. Cement for Finishes:
   1. Addition of white cement may be required to produce finish which matches color of concrete to be finished.

B. Vertical Concrete Surfaces: For vertical surfaces, use the finishes specified below:
   1. F1 Finish: No special treatment other than repair defective work and fill depressions 1 inch or deeper and tie holes with mortar after removal of curing membrane.

2. F2 Finish: No special treatment other than repair defective work, remove fins, fill depressions 1/2 inch or deeper and tie holes with mortar after removal of curing membrane.
3. F3 Finish: Repair defective work, remove fins, offsets, and curing membrane, and grind projections smooth. Fill depressions 1/4 inch or larger in depth or width and tie holes with mortar after removal of curing membrane.
4. F4 Finish:
    a. Same as specified for F3 Finish, and, in addition fill depressions and holes 1/16 inch or larger in width with mortar.
    b. "Brush-Off" sandblast surfaces prior to filling holes to expose all holes near surface of the concrete.
    c. Thoroughly wet surfaces and commence filling of pits, holes, and depressions while surfaces are still damp.
    d. Perform filling by rubbing mortar over entire area with clean burlap, sponge rubber floats, or trowels.
    e. Do not let any material remain on surfaces, except that within pits and depressions.
    f. Wipe surfaces clean and moist cure.
5. F5 Finish: Receive same finish specified for F3 Finish, and, in addition, receive special stoned finish, in accordance with following requirements:
    a. Remove forms and perform required repairs, patching, and pointing as specified in this Section.
    b. Wet surfaces thoroughly with brush and rub with hard wood float dipped in water containing 2 pounds of portland cement per gallon.
    c. Rub surfaces until form marks and projections have been removed.
    d. Spread grindings from rubbing operations uniformly over surface with brush in such manner as to fill pits and small voids.
    e. Moist-cure brushed surfaces and allow to harden for 3 days.
        1) After curing, obtain final finish by rubbing with carborundum stone of approximately Number 50 grit until entire surfaces have smooth texture and are uniform in color.
        2) Continue curing for remainder of specified time.
    f. If any concrete surface is allowed to become too hard to finish in above specified manner, sandblast and wash related surfaces exposed to view, whether finished or not.
        1) While still damp, rub over surface, plastic mortar, as specified for brushed surfaces and handstoned with Number 60 grit carborundum stone, using additional mortar for brushed surfaces until surface is evenly filled without an excess of mortar.
        2) Continue stoning until surface is hard.
        3) After moist curing for 3 days, make surface smooth in texture and uniform in color by use of Number 50 or Number 60 grit carborundum stone.
        4) After stoning, continue curing until 7 day curing period is completed.

C. Horizontal Concrete: After proper and adequate vibration and tamping, use following finishes for horizontal concrete surfaces:
    1. S1 Finish: Screeded to grade and leave without special finish.
    2. S2 Finish: Smooth steel trowel finish.
    3. S3 Finish: Steel trowel finish free from trowel marks. Provide smooth finish free of all irregularities.
    4. S4 Finish: Steel trowel finish, without local depressions or high points, followed by light hairbroom finish. Do not use stiff bristle brooms or brushes. Perform brooming parallel to slab-drainage. Provide resulting finish that is rough enough to provide

nonskid finish. Finish shall be subject to review and acceptance by the ENGINEER.

5. S5 Finish: Nonslip abrasive: After concrete has been screeded level and hardened enough to support man standing on a board, sprinkle abrasive from shake screen into surface at uniform rate of 25 pounds for each 100 square feet of surface area, wood float into finish, then trowel abrasive into surface with steel trowel properly exposing abrasive in surface as required to provide nonslip surface.

D. Concrete Floor Surfaces to Which Surfacing Material Is Applied: Finish smooth with tolerance within 1/8 inch in 10 feet in any direction from lines indicated on the Drawings.

3.02 CONCRETE FINISHING

A. Finish concrete surfaces as indicated on the Drawings. Where not specified or indicated on the Drawings, finish surfaces as follows:
   1. S3 Finish for Following Horizontal Surfaces:
      a. Top of interior concrete slabs and walls.
   2. S4 Finish for Following Horizontal Surfaces:
      a. Top of exterior concrete slabs and walls.
   3. F5 Finish for the Following Vertical Surfaces:
      a. All exposed exterior or interior vertical concrete surfaces and submerged concrete surfaces to 2 feet below the submerged line.
   4. F4 Finish for the Following Vertical Surfaces:
      a. All submerged vertical concrete surfaces not receiving an F5 finish.

END OF SECTION

SECTION 03600

GROUTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Concrete mortar.
   2. Grout.
   3. Drypack mortar.
   4. Nonshrink grout.
   5. Epoxy grout.
   6. Non-shrink epoxy grout.

B. Related Sections:
   1. Section 03071 - Epoxies.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. C109 - Test Method for Compressive Strength of Hydraulic Cement Mortars (using 2 inch or 50 millimeter cube specimens).
   2. C531 - Test Method for Liner Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.
   3. C579 - Test Method for Compressive Strength of Chemical-Resistant Mortars and Monolithic Surfacings.
   4. C827 - Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures.
   5. C939 - Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method).
   6. C1090 - Test Method for Measuring Change in Height of Cylindrical Specimens from Hydraulic-Cement Grout.
   7. C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
   8. C1181 - Test Methods for Compressive Creep of Chemical-Resistant Polymer Machinery Grouts.

1.03 SUBMITTALS

A. Nonshrink Grout and Non-shrink Epoxy Grout: Submit manufacturer's literature and certified test data prior to installation.

1.04 DELIVERY, STORAGE, AND HANDLING

A. All materials shall be delivered to the jobsite in their original, unopened packages or containers, clearly labeled with the manufacturer's product identification and printed instructions.

B. All materials shall be stored in a cool dry place and in accordance with the manufacturer's recommendations.

C. All materials shall be handled in accordance with the manufacturer's instructions.

1.05 PROJECT/SITE CONDITIONS

A. Refer to manufacturer's literature or contact the manufacturer for any special physical or environmental limitations that may be required for use of products.

1.06 WARRANTIES

A. Non-shrink Grout: The manufacturer shall warranty that the non-shrink grout will never go below its initial placement volume when tested in accordance with ASTM C1107.

B. Non-shrink Epoxy Grout: The manufacturer shall warranty that non-shrink epoxy grout will show negligible shrinkage or expansion when tested in accordance with ASTM C 531.

PART 2 PRODUCTS

2.01 MATERIALS

A. Concrete Mortar:
   1. General: Consist of concrete mixture with coarse aggregate removed and water quantity adjusted as required.
   2. At Exposed Concrete Surfaces Not to Be Painted or Submerged in Water: White cement.

B. Grout:
   1. Consist of mixture of Portland cement and sand.

C. Dry-pack Mortar:
   1. Consist of mixture of Portland cement and sand.

D. Non-shrink Grout:
   1. Non-shrink grout shall be a preportioned and prepackaged cement-based mixture. It shall contain no metallic particles such as aluminum powder and no metallic aggregate such as iron filings. It shall require only the addition of potable water.
   2. Potable water for pre-soaking, mixing, and curing shall be clean and free of oils, acids, alkalies, organics, and any other deleterious matter.
   3. Bleeding: Non-shrink grout shall be free from the emergence of mixing water from within or the presence of water on its surface.
   4. Non-shrink grout shall be in accordance with ASTM C1107.
   5. Consistency: Non-shrink grout shall remain at a minimum flowable consistency for at least 45 minutes after mixing at 45 degrees Fahrenheit to 90 degrees Fahrenheit when tested in accordance with ASTM C230. If at a fluid consistency, it shall be verified in accordance with ASTM C939.
   6. Dimensional Stability (height change): Non-shrink grout shall be in accordance with ASTM C1107, volume-adjusting Grade B or C at 45 degrees to 90 degrees. It shall show 90 percent or greater bearing area under bases or baseplates.
   7. Compressive Strength: Non-shrink grout shall show minimum compressive strengths at 45 degrees Fahrenheit to 90 degrees Fahrenheit in accordance with ASTM C1107 for various periods from the time of placement, including 5,000 pounds per square inch at 28 days when tested in accordance with ASTM C109 as modified by C1107.

8. Manufacturers: One of the following or equal:
    a. Five Star Products, Inc., Fairfield, CT, Five Star Grout.
    b. Master Builders Solutions, Shakopee, Minesota, Masterflow 928.

E. Epoxy Grout:
1. Consist of Ready to mix, pre-portioned kit, non-shrink, moisture-tolerant, corrosion and impact resistant, stress and chemical resistant and excellent flowability.
2. Application Life 90 minutes.
3. Flexural Strength (ASTM C-580) 7 day; Flexural Strength (Modulus of Reupture 4000 psi and Tangent Modulus of Elasticity $1.30x10^6$ psi.
4. Tensile Properties (ASTM C-307) 7 day 2,300 psi.
5. Water Absorption (ASTM C-307 7 day (2 hour boil) 0.04%.
6. Bond Strength (ASTM C-882 modified) 7 day 4,200 psi
7. Compressive Strength (ASTM C-579B) 7 day 14,900 psi at 73 degrees F
8. Manufactures: the following or equal:
    a. Sika, Lyndhurst, NJ, Sikadur 42 Grout Pack

F. Non-shrink Epoxy Grout:
1. Non-shrink epoxy grout shall be a 100 percent solids, premeasured, prepackaged system containing a two-component thermosetting epoxy resin and inert aggregate.
2. Consistency: Non-shrink epoxy grout shall maintain a flowable consistency for at least 45 minutes at 70 degrees Fahrenheit.
3. Dimensional Stability (height change):
    a. Non-shrink epoxy grout shall have negligible shrinkage or expansion (less than 0.0006 in/in) when tested in accordance with ASTM C531.
4. Compressive Strength: Non-shrink epoxy grout shall show a minimum compressive strength of 10,000 pounds per square inch at 24 hours and 14,000 pounds per square inch at 7 days when tested in accordance with ASTM C579, Method B.
5. Compressive Creep: The compressive creep for non-shrink epoxy grout shall not exceed 0.0027 in/in when tested under a 400 pounds per square inch constant load at 140 degrees Fahrenheit in accordance with ASTM C1181.
6. Thermal Capability: The coefficient of thermal expansion for non-shrink epoxy grout shall not exceed 0.000018 inches per inch per degree Fahrenheit when tested under ASTM C531, Method B.
7. Manufacturers: One of the following or equal:
    a. Five Star Products, Inc., Fairfield, CT, Five Star Epoxy Grout.
    b. BASF, Shakopee, Minesota, Masterflow 648 CP Plus.

2.02 MIXES

A. Concrete Mortar Mix:
1. Use water-cement ratio that is no more than that specified for concrete being repaired.
2. At Exposed Concrete Surfaces Not to Be Painted or Submerged in Water: Use sufficient white cement to make color of finished patch match that of surrounding concrete.

B. Grout Mix:
1. For Concrete Repair: Mix in same proportions used for concrete being repaired, with only sufficient water to give required consistency for spreading.
2. For Spreading over the Surfaces of Construction or Cold Joints: Mix with no more water used than allowed by water-cement ratio specified for concrete.

3. For Other Applications: Mix in proportions by weight of one part cement to four parts of concrete sand.

C. Dry-pack Mortar Mix: Use only enough water so that resulting mortar will crumble to touch after being formed into ball by hand.

D. Non-shrink Grout: Mix in accordance with manufacturer's installation instructions such that resulting mix has fluid or flowable consistency and is suitable for placing by pouring.

E. Epoxy Grout:
1. Mix in accordance with manufacturer's installation instructions for mixing.
2. Ready to mix, pre-portioned kit.

F. Non-shrink Epoxy Grout: Mix in accordance with manufacturer's installation instructions.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect concrete surfaces to receive grout or mortar and verify that they are free of ice, frost, dirt, grease, oil, curing compounds, paints, impregnations and all loose material or foreign matter likely to affect the bond or performance of grout or mortar.

B. Inspect baseplate and anchor systems for rust, oil, and other deleterious substances that may affect the bond or performance of grout.

C. Confirm that newly placed concrete has been cured sufficiently to attain its design strength and limit further shrinkage.

D. Verify that temperature of cementitious or epoxy grout does not exceed manufacturer's recommendations.

3.02 PREPARATION

A. Surface Preparation:
1. Roughen all concrete surfaces by heavy sandblasting, chipping, or other mechanical means to assure bond. Loose or broken concrete shall be removed.
2. All grease, oil, dirt, curing compounds, laitance, and other deleterious materials that may affect bond that were identified in the inspection process shall be completely removed from concrete and bottoms of baseplates. All metal surfaces should have a 2 to 3 mil peak-to-valley profile for epoxy grouts.
3. For cementitious mortars and grouts, concrete surfaces shall be saturated surface dry. Any standing water shall be removed prior to placing grouts.
4. For epoxy grouts, do not wet concrete surfaces with water. Instead, where required, wet surfaces with epoxy for horizontal work or epoxy gel for vertical or overhead work prior to placing epoxy grouts.

B. Forms and Headboxes for Grouts (Cementitious or Epoxy):
1. Forms for grouts shall be built of material with adequate strength to withstand the placement of grouts.
2. Forms must be rigid and liquid tight. All cracks and joints shall be caulked with an elastomeric sealant. All forms shall be lined with polyethylene for easy grout

release. Forms carefully waxed with two coats of heavy-duty paste wax shall also be acceptable.
3. Forms shall be 4 to 6 inches higher than the baseplate on one side of the baseplate configuration when using head pressure for placement.
4. A sufficient number of headboxes shall be built to facilitate placement of grouts.
5. Air relief holes a minimum 1/8 inch in diameter shall be provided when required by a baseplate configuration to avoid entrapping air underneath.

3.03 APPLICATION

A. Cement Mortar and Grout:
   1. For Defective Concrete Repair:
      a. Filling: Filling of voids around items through the concrete.
      b. Grout Spreading: Spread over construction joints, cold joints, and similar type items.
   2. Concrete Surfaces:
      a. Apply epoxy bonding agent to clean, roughened, and dry surfaces before placing mortar or grout.
   3. Placing:
      a. Exercise particular care in placing Portland cement mortar or grout since they are required to furnish structural strength or impermeable water seal or both.
      b. Do not use cement mortar or grout that has not been placed within 30 minutes after mixing.

B. Epoxy Grout:
   1. Apply in accordance with manufacturer's installation instructions.
   2. Use where specified herein or where indicated on the Drawings.

3.04 PLACEMENT

A. Grout shall only be installed after the final equipment alignment is correct and reviewed and accepted by the Engineer.
   1. Grouts shall be mixed in accordance with the manufacturer's recommendations.
   2. A mortar mixer with moving paddles shall be used for mixing grouts. For cementitious grouts, pre-wet the mixer and empty out excess water before beginning mixing.
   3. Cementitious Grouts:
      a. Non-shrink cementitious grout shall be added to a premeasured amount of water that does not exceed the manufacturer's maximum recommended water content.
      b. Mix cementitious grouts per manufacturer's instructions for uniform consistency.
      c. Grouts may be drypacked, flowed, or pumped into place. All baseplate grouting shall take place from one side of a baseplate to the other to avoid trapping air. Do not overwork grouts.
      d. Do not retemper grout by adding more water after stiffening.
      e. Hydrostatic head pressure shall be maintained by keeping the level of the grout in the headbox above the bottom of the baseplate. The headbox should be filled to the maximum level and the grout worked down to top of baseplate.
   4. Epoxy Grouts:
      a. Mix the resin (A+B) with a low speed drill for 20-30 seconds. Insure that air is not entrapped during mixing.
      b. Slowly add the C component to the mixed resin and mix for 3-5 minutes.
      c. Drum mixer/mortar mixer or other appropriately sized mixers can be used for

1.5 cu. ft. packaging.

d. Once mixed, pour the material into the desired place, within the application life of the material.

3.05 CURING

A. Cementitious Grouts:
   1. Grouts must be cut back to the lower edge of baseplates after reaching initial set. Provide a 45 degree angle cut back.
   2. Clean equipment and tools as recommended by the grout manufacturer.
   3. Cure Grouts in accordance with manufacturer's specifications and recommendations. Keep grout moist for a minimum of 3 days. The method needed to protect grouts will depend on temperature, humidity, and wind. Wet burlap, a soaker hose, sun shading, ponding and, in extreme conditions, a combination of methods shall be employed.
   4. Grouts shall be maintained above 40 degrees Fahrenheit until they have attained a compressive strength of 3,000 pounds per square inch or above 70 degrees Fahrenheit for a minimum of 24 hours to avoid damage from subsequent freezing.

B. Epoxy Grouts:
   1. Cure grouts in accordance with manufacturers' specifications and recommendations. Do not wet cure epoxy grouts.
   2. Consult the manufacturer for appropriate cure schedule. In no case should any surface in contact with grout be allowed to fall below 50 degrees Fahrenheit for a minimum of 48 hours after placement.
   3. Equipment and tools shall be cleaned immediately with a strong liquid detergent and water solution before grout hardens.

3.06 FIELD QUALITY CONTROL

A. Contractor responsibilities:
   1. Contractor is responsible to perform his own testing to ensure grout meets specification requirements. Contractor relies on testing results from Owner or Owner firm at his sole risk.
   2. Make accommodations for any Owner directed testing.

B. Owner Responsibilities:
   1. Owner may take samples and perform grout testing, including the following.
      a. Non-shrink cementitious grouts shall be tested for 24 hour compressive strength in accordance with ASTM C109.
      b. Non-shrink grouts shall be tested for 24 hour compressive strength in accordance with ASTM C579 (Method B).

END OF SECTION

SECTION 05120

STRUCTURAL STEEL

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Structural steel including:
   1. Structural steel shapes and plate.
   2. Fasteners.
   3. Welding.
   4. Associated accessories.
      a. All thread rods.
      b. Anchor bolts.
      c. Assembly bolts.
      d. Chemical anchors.
      e. Concrete anchors.
      f. Deformed bar anchors.
      g. Eyebolts.
      h. Flush shells.
      i. High strength all thread rods.
      j. High strength bolts.
      k. Powder actuated fasteners.
      l. Studs.

1.02 REFERENCES

A. 2025 California Building Code (CBC)

B. American Institute of Steel Construction (AISC):
   1. Specification for Structural Steel Buildings - Allowable Stress Design and Plastic Design.

C. American Society for Testing and Materials (ASTM):
   1. A36/A36M - Specification for Structural Steel.
   2. A53 - Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
   3. A123 - Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
   4. A167 - Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
   5. A193 - Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service.
   6. A276 - Specification for Stainless Steel Bars and Shapes.
   7. A307 - Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
   8. A325 - Specification for High-Strength Bolts for Structural Steel Joints.
   9. A489 - Specification for Carbon Steel Lifting Eyes.
   10. A490 - Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength.
   11. A496 - Specification for Steel Wire, Deformed, for Concrete Reinforcement.
   12. A500 - Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

13. A501 - Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
14. A572 – Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
15. A992 -Specification for Structural Steel Shapes.
16. F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
17. F959 - Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners.

D. American Welding Society (AWS):
1. A 5.1 - Specification for Carbon Steel Electrodes for Shielded Metal Arc Welding.
2. A 5.17 - Specification for Carbon Steel Electrodes and Fluxes for Submerged Arc Welding.
3. A 5.20 - Specification for Carbon Steel Electrodes for Flux Cored Arc Welding.
4. D 1.1 - Structural Welding Code - Steel.
5. D 1.4 – Structural Welding Code – Reinforcing Steel
6. D 10.4 - Recommended Practices for Welding Austenitic Chromium-Nickel Stainless Steel Piping and Tubing.

E. Steel Structures Painting Council (SSPC):
1. SSPC SP3 - Power Tool Cleaning.

F. 2025 California Building Code (CBC)

G. International Code Council (ICC):

1.03 SUBMITTALS

A. Quality Control Submittals:
1. Structural steel shop fabrication and erection drawings.
2. Design Data: Submit design of members to be fabricated before starting their fabrication.

B. Test Reports:
1. Certified copies of mill tests and analyses made in accordance with applicable ASTM standards, or reports from a recognized commercial laboratory, including chemical and tensile properties of each shipment of structural steel or part thereof having common properties.
2. Current International Conference of Building Officials Evaluation Report for chemical anchors.
3. Visible evidence of turning by a concrete anchor will be cause for ENGINEER to reject concrete anchors.

1.04 QUALITY ASSURANCE AND QUALITY CONTROL

A. Quality Assurance shall be provided as required by the CBC, AISC 360, and AISC 341.
1. Special Inspections and Tests requirements indicated in the CBC Chapter 17, and Quality Assurance requirements indicated in AISC 360 Chapter N and AISC 341 Chapter J, will be provided by and paid for by the Owner.
2. Structural Observations, if required by the Building Official or requested by the Owner, will be provided by and paid for by the Owner.

3. Contractor Responsibility requirements indicated in the CBC Chapter 17 shall be provided by and paid for by the Contractor.

B. The Contractor shall be aware of all Quality Assurance requirements, and shall provide advance notice and full access to the Owner and Engineer to conduct the inspections, tests, and observations.
   1. For inspections and tests at locations away from the project site, a minimum of 14 days' notice shall be provided in writing.
   2. For inspections, tests and observations at the project site, a minimum of 7 days' notice shall be provided in writing.
   3. The Contractor shall provide safe access, including fall protection equipment, to all locations necessary to conduct the inspections, tests, and observations.

C. The Contractor shall supply material for testing at no cost to the Owner and shall assist the Engineer in obtaining material for test samples.

D. The Contractor shall correct or repair all defective Work. All costs associated with corrections, repairs, and retesting shall be paid for by the Contractor.

E. Quality Control shall be provided as required by AISC 360 and AISC 341.
   1. Quality Control requirements indicated in AISC 360 Chapter N and AISC 341 Chapter J shall be provided by and paid for by the Contractor.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping: Deliver structural steel free from mill scale, rust, and pitting.

B. Storage and Protection: Until erection and painting, protect from weather items not galvanized or protected by a shop coat of paint.

PART 2 PRODUCTS

2.01 MATERIALS

A. Unless Otherwise Specified or Indicated on the Drawings, Materials Shall Conform to the Following:

Item	ASTM Standard Item	Class, Grade, Type or Alloy Number
Steel		
Plate, bars, rolled shapes, and miscellaneous items	A 36	--
Tubing, cold-formed	A 500	Grade B
Tubing, hot-formed	A 501	--
Steel pipe	A 53	Grade B
High-Strength Plates	A 572	
Rolled W and WT Shapes	A 992	
Stainless Steel		
Plate, sheet, and strip	A 167	Type 304* or 316*

Bars and shapes	A 276	Type 304* or 316*
Use Type 304L if material will be welded. ** Use Type 316L if material will be welded.		

B. Stainless steels are designated by type or series defined by ASTM.

C. Where stainless steel is welded, use low-carbon stainless steel.

D. Where anchors, connections or other details of structural steel are not specifically indicated on the Drawings or specified, their material, size, and form shall be equivalent in quality and workmanship to items specified.

2.02 FASTENERS

A. General: Furnish threaded fasteners, except high strength bolts, with flat washers, and self-locking nuts, or lock washers and nuts.
   1. Bolt Heads and Nuts: Hex-type.
   2. Bolts, Nuts, and Washers: Of domestic manufacture.
   3. Where bolts, including anchor bolts, nuts, washers, and similar fasteners are specified to be galvanized, galvanize in accordance with ASTM A 153.

B. All Thread Rods:
   1. Type 316 stainless steel for use in wet and moist locations, including:
      a. Water-Containing Structures:
         1) Below and at water level.
         2) Above water level.
            a) Below top of walls of water-containing structures.
            b) Under the roof, slab, beam, or walkway of enclosed water-containing structures.
         3) Dry side of walls of water-containing structures.
      b. Pump bases.
   2. Type 304 or Type 316 stainless steel for aluminum assemblies.
   3. ASTM A 36 meeting the mechanical requirements of ASTM A 307. Hot-dip galvanize for galvanized assemblies and for applications other than those specified.

C. Anchor Bolts:
   1. Anchor Bolts, Nuts, and Washers: Type 316 Stainless Steel for Use in Wet and Moist Locations, Including:
      a. Water-containing Structures:
         1) Below and at water level.
         2) Above Water Level:
            a) Below top of walls of water-containing structures.
            b) Under the roof, slab, beam, or walkway of enclosed water-containing structures.
         3) Dry side of walls of water-containing structures.
      b. Pump bases.
   2. Anchor Bolts, Nuts, and Washers: Type 304 or Type 316 stainless steel for fastening aluminum to concrete or steel.
   3. Anchor Bolts, Nuts, and Washers: Hot-dip galvanized ASTM A 307 steel or hot-dip galvanized ASTM A 36 steel, for applications other than those specified.

D. Assembly Bolts:

1. Bolts, nuts, and washers for wood baffles, collectors, and other field-assembled construction:
    a. Type 316 stainless steel for use in wet and moist locations, including:
        1) Water-containing structures:
            a) Below and at water level.
            b) Above water level.
                (1) Below top of walls of water-containing structures.
                (2) Under the roof, slab, beam, or walkway of enclosed water-containing structures.
                (3) Dry side of walls of water-containing structures.
        2) Pump bases.
    b. Type 304 or Type 316 stainless steel for aluminum assemblies.
2. Hot-dip galvanized ASTM A307 steel for galvanized assemblies and for applications other than those specified.

E. Chemical Anchors:
1. Where installed in concrete, chemical anchors shall have vinyl ester resin in the composition of the adhesive.
2. All-thread rods shall be either ASTM A 36 steel or stainless steel.
3. Hot-dip galvanize or zinc plate ASTM A 36 steel all-thread rods.
4. Stainless steel all-thread rod shall conform with ASTM F 593 and shall be used for corrosive conditions where indicated on the Drawings.
5. Use reinforcing bars in lieu of all-thread rods where indicated on the Drawings.
6. All-thread rods and reinforcing bars used with the adhesive capsule shall have chisel points and shall be free of oil or coatings that may reduce bond.
7. Do not use chemical anchors to resist tension in overhead positions.
8. Chemical Anchors:
    a. Manufacturers: One of the following or equal:
        1) Simpson, SET-3G Epoxy.
        2) Hilti, RE 500-SD.
9. All post installed anchors are required to have a current ICC Evaluation Services Report.

F. Concrete Anchors:
1. Manufacturers: One of the following or equal:
    a. ITW Ramset/Redhead, Trubolt Wedge.
    b. Hilti, Kwikbolt-TZ.
2. Concrete Anchor's Integral Threaded Stud, Wedge, Washer, and Nut: Type 304 or Type 316 Stainless Steel for Use in Wet and Moist Locations, Including:
    a. Water-containing Structures:
        1) Below and at water level.
        2) Above Water Level:
            a) Below top of walls of water-containing structures.
            b) Under the roof, slab, beam, or walkway of enclosed water-containing structures.
        3) Dry side of walls of water-containing structures.
    b. Pump bases.
3. Concrete Anchor's Integral Threaded Stud, Wedge, Washer, and Nut: Type 304 or 316 stainless steel for fastening aluminum to concrete or steel.
4. Concrete Anchor's Integral Threaded Stud, Wedge, Washer, and Nut: Hot-dip galvanized ASTM A307 steel, or hot-dip galvanized ASTM A36 steel, for applications other than those specified.
5. Do not use Slug-in, lead cinch, and similar systems relying on deformation of lead alloy or similar materials in order to develop holding power.

6. All post installed anchors are required to have a current ICC Evaluation Services Report.

G. Deformed Bar Anchors: In accordance with ASTM A496:
   1. Manufacturers: One of the following or equal:
      a. Nelson Stud Welding Company, D2L Deformed Bar Anchors.
      b. Stud Welding Products, DBA (Deformed Bar) Anchors.

H. Eyebolts:
   1. Welded or forged, when manufactured of materials other than carbon steel.
   2. Having geometric and strength characteristics of eyebolts specified in ASTM A489, Type 1. The strength characteristics include proof load requirements, breaking strength requirements, tensile strength requirements, bend test, and impact strength.

I. Flush Shells:
   1. Manufacturers: One of the following or equal:
      a. ITW Ramset/Redhead, Multi-Set II Drop-In.
      b. Hilti Corporation, Hol-Hugger HDI Drop-In.
   2. Bolts, Flush Shells, Threaded Rods, Washers, and Nuts: Type 303 stainless steel.
   3. All post installed anchors are required to have a current ICC Evaluation Services Report.

J. High Strength All Thread Rods: In accordance with ASTM A193, Grade B7. Hot-dip galvanize.

K. High Strength Bolts: High strength bolts, nuts, and hardened flat washers shall be in accordance with ASTM A325 or ASTM A490, as indicated on the Drawings.

L. Powder Actuated Fasteners:
   1. For Installation in Concrete or Steel: Zinc coated, heat-treated, alloy steel.
   2. Fasteners Not Sufficiently Protected against Corrosion from Exposure to Corrosive Conditions: Coat as necessary to make suitable for such conditions.
   3. Pins: Furnish with head or threaded stud capable of transmitting loads to shanks.
   4. Pins Connected to Steel: Furnish with longitudinal serrations around circumference of shank.

M. Studs:
   1. ASTM A108 with 50,000 pounds per square inch minimum yield strength, and 60,000 pounds per square inch minimum tensile strength.
   2. Headed Studs: Manufacturers: One of the following or equal:
      a. Nelson Stud Welding Company, S3L Shear Connectors or H4L Concrete Anchors.
      b. Stud Welding Products, Headed Concrete Anchors and Shear Connectors or Concrete Anchors.

2.03 SUPPLEMENTARY PARTS

A. Furnish as required for complete structural steel erection, whether or not such parts and Work are specified or indicated on the Drawings.

2.04 FABRICATION

A. Shop Assembly:

1. Fabricate structural steel in conformance with AISC "Specification for the Structural Steel Buildings - Allowable Stress Design and Plastic Design," unless otherwise specified or modified by applicable regulatory requirements.
2. Where anchors, connections or other details of structural steel are not specifically indicated on the Drawings or specified, their material, size and form shall be equivalent in quality and workmanship to items specified.
3. For Structural members such as W Shapes, S Shapes, Channels, Angles, and similar members not available in quantity, size, and type of stainless steel specified or indicated on the Drawings.
    a. Fabricate by welding together pieces of low carbon stainless steel plate, such as 316L.
    b. Make full penetration welds between pieces of plate to attain same or higher section modulus and moment of inertia as members indicated on the Drawings.
4. Where galvanizing is required, hot-dip galvanize structural steel after fabrication in accordance with ASTM A123.
    a. Do not electro-galvanize unless specified or accepted by ENGINEER.
    b. Restraighten galvanized items that bend or twist during galvanizing.
5. Round off sharp and hazardous projections and grind smooth.
6. Take measurements necessary to properly fit work in the field. Take responsibility for and be governed by the measurements and proper working out of all the details.
7. Take responsibility for correct fitting of all metal work.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine Work in place to verify that it is satisfactory to receive the Work of this Section. If unsatisfactory conditions exist, do not begin this Work until such conditions have been corrected.

3.02 ERECTION

A. General:
    1. Fabricate structural and foundry items to true dimensions without warp or twist.
    2. Form welded closures neatly, and grind off smooth where weld material interferes with fit or is unsightly.
    3. Install structural items accurately and securely, true to level, plumb, in correct alignment and grade, with all parts bearing or fitting structure or equipment for which intended.
    4. Do not cock out of alignment, redrill, reshape, or force fit fabricated items.
    5. Place anchor bolts or other anchoring devices accurately and make surfaces which bear against structural items smooth and level.
    6. Rigidly support and brace structural items needing special alignment to preserve straight, level, even, and smooth lines. Keep structural items braced until concrete, grout, or dry pack mortar has hardened for 48 hours minimum.
    7. Erect structural steel in conformance with AISC "Specification for Structural Steel Buildings” and “Code of Standard Practice for Steel Buildings and Bridges”, unless otherwise specified or modified by applicable regulatory requirements.
    8. Where anchors, connections, and other details of structural steel erection are not specifically indicated on the Drawings or specified, form, locate, and attach with equivalent in quality and workmanship to items specified.
    9. Round off sharp or hazardous projections and grind smooth.

10. Paint or coat steel items as specified in Sections 09960 and 09910.

B. Welding - General:
   1. Make welds full penetration type, unless otherwise indicated on the Drawings.
   2. Remove backing bars and weld tabs after completion of weld. Repair defective welds observed after removal of backing bars and weld tabs.

C. Welding Stainless Steel:
   1. General: Comply with AWS D1.1.
      a. Perform with electrodes and techniques in accordance with AWS D10.4.

D. Welding Carbon Steel:
   1. General: Comply with AWS D1.1.
      a. Weld ASTM A36 structural steel, ASTM A500 and A501 structural tubing, ASTM A53 pipe, A572 High-Strength Plates, and A992 Rolled W and WT Shapes with electrodes conforming to AWS A5.1, using E70XX electrodes; AWS A5.17, using F7X-EXXX electrodes; or AWS A5.20, using E7XT-X electrodes.
      b. Field repair cut or otherwise damaged galvanized surfaces to equivalent original condition using the following:
         1) Manufacturers: One of the following or equal:
            a) Galvinox.
            b) Galvo-Weld.

E. Interface With Other Products:
   1. Where steel fasteners come in contact with aluminum or other dissimilar metals, bolt with stainless steel bolts and separate or isolate from dissimilar metals with sleeves and washers.
      a. Sleeves: Mylar, 1/32 inch thick, of proper size to fit bolts. One sleeve required for each bolt.
         1) Manufacturers: One of the following or equal:
            a) Central Plastics Company, Shawnee, Oklahoma.
      b. Washers: 63 glass phenolic, 1/8 inch thick, of proper size to fit bolts. Two washers are required for each bolt.
   2. Prior to installing nuts, coat threads of stainless steel fasteners with following to prevent galling of threads.
      a. Manufacturers: One of the following or equal:
         1) Never Seez Compound Corporation, Never-Seez.
         2) Oil Research, Inc., WLR No. 111.

F. Threaded Fasteners:
   1. General:
      a. Install bolts, including anchor bolts and concrete anchors, to project 2 threads minimum, but ½ inch maximum beyond nut.
      b. Unless otherwise specified, tighten bolts, including anchor bolts and concrete anchors, to the "snug-tight" condition, defined as tightness attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench.
   2. Anchor Bolts:
      a. Cast-in-place when concrete is placed, wherever feasible.
      b. Accurately locate anchor bolts embedded in concrete with bolts perpendicular to surface from which they project.
      c. Do not allow anchor bolts to touch reinforcing steel.

d. Where anchor bolts are within 1/4 inch of reinforcing steel, isolate with a minimum of 4 wraps of 10 mil polyvinyl chloride tape in area adjacent to reinforcing steel.
e. In anchoring machinery bases subject to heavy vibration, use 2 nuts, with 1 serving as a locknut.
f. Where bolts are indicated on the Drawings for future use, first coat thoroughly with nonoxidizing wax, then turn nuts down full depth of thread and neatly wrap exposed thread with waterproof polyvinyl tape.
g. Furnish anchor bolts with standard hex bolt head unless otherwise indicated on the Drawings.
h. Embed anchor bolts 10 diameters minimum.
i. Where indicated on the Drawings, set anchor bolts in metal sleeves having inside diameter approximately 2 inches greater than bolt diameter and minimum 10 bolt diameters long. Fill sleeves with grout when a machine or other equipment is grouted in place.
j. Anchor bolts may be cast in concrete in lieu of using concrete anchors.

3. Chemical Anchors:
   a. Accurately locate concrete anchors and set perpendicular to surfaces from which they project.
   b. Drilling Holes:
      1) Do not damage or cut existing reinforcing bars, electrical conduits, or other items embedded in the existing concrete without acceptance by ENGINEER.
      2) Determine location of reinforcing bars, or other obstructions with a non-destructive indicator device.
   c. Hole Drilling Equipment:
      1) Electric or pneumatic rotary type with medium or light impact.
      2) Drill Bits: Carbide-tipped in accordance with ANSI B212-15.
      3) Hollow drills with flushing air systems are preferred. Air shall be free of oil, water, or other contaminants which will reduce bond.
      4) Where edge distances are less than 2 inches, use lighter impact equipment to prevent microcracking and concrete spalling during drilling process.
   d. Hole Diameter:
      1) As recommended by chemical anchor cartridge manufacturer.
   e. Install reinforcing bars and all thread rods to depth, spacings, and locations as indicated on the Drawings.
   f. Cleaning Holes:
      1) Insert long air nozzle into hole and blow out loose dust. Use air which is free of oil, water, or other contaminants which will reduce bond.
      2) Use a stiff bristle brush to vigorously brush hole to dislodge compacted drilling dust.
      3) Repeat step 1.
      4) Repeat steps as required to remove drilling dust or other material which will reduce bond. The hole shall be clean and dry.
   g. Cleaning All Thread Rods:
      1) Degrease over embedment length. The all thread rods shall be free of oil, grease, paint, dirt, mill scale, rust, or other coatings that will reduce bond.
   h. All Chemical Anchors require special inspection in accordance with the ICC ES Report.

4. Concrete Anchors:
   a. Concrete anchors shall mean drilled in place anchors with integral threaded studs.

b. Do not use concrete anchors in lieu of anchor bolts.
c. Accurately locate concrete anchors and set perpendicular to surfaces from which they project.
d. Minimum embedment lengths:

Diameter Inches	Embedment Length Inches
1/4	1-3/4
3/8	1-7/8
1/2	2-1/4
5/8	2-3/4
3/4	3-1/4

e. Drilling Holes:
   1) Do not damage or cut existing reinforcing bars, electrical conduits, or other items embedded in the existing concrete without review and acceptance by ENGINEER.
   2) Determine location of reinforcing bars, or other obstructions with a non-destructive indicator device.
f. Hole Drilling Equipment:
   1) Electric or pneumatic rotary type with medium or light impact.
   2) Drill Bits: Carbide-tipped in accordance with ANSI B212-15.
   3) Hollow drills with flushing air systems are preferred. Air shall be free of oil, water, or other contaminants which will reduce bond.
   4) Where edge distances are less than 2 inches, use lighter impact equipment to prevent microcracking and concrete spalling during drilling process.
g. All Concrete Anchors require special inspection in accordance with the ICC ES Report.

5. High Strength Bolts:
   a. Consider connections with high strength bolts to be slip critical structural connections, unless otherwise indicated on the Drawings.
   b. Connections with high strength bolts shall conform to AISC Specification for Structural Joints Using ASTM A325 or A490 Bolts.
   c. Furnish Hardened Flat Washer:
      1) Under element, nut or bolt head, turned in tightening.
      2) On outer plies for short slotted holes.
   d. Notify ENGINEER in advance of method selected for tightening and verification pursuant to the referenced AISC Specification.
   e. High strength bolts require special inspection in accordance with the California Building Code, unless otherwise indicated on the Drawings.
6. Deformed Bar Anchors:
   a. Butt weld with automatic stud welding gun as recommended by manufacturer.
   b. Ensure butt weld develops full strength of the anchor.
7. Flush Shells:
   a. Use only where specifically indicated on the Drawings.
   b. Accurately locate and set perpendicular to surfaces from which they project.
   c. Drilling Holes:
      1) Do not damage or cut existing reinforcing bars, electrical conduits, or other items embedded in the existing concrete without acceptance by ENGINEER.

2) Determine location of reinforcing bars, or other obstructions with a non-destructive indicator device.

d. Hole Drilling Equipment:
   1) Electric or pneumatic rotary type with medium or light impact.
   2) Drill Bits: Carbide-tipped in accordance with ANSI B212-15.
   3) Hollow drills with flushing air systems are preferred. Air shall be free of oil, water, or other contaminants which will reduce bond.
   4) Where edge distances are less than 2 inches, use lighter impact equipment to prevent microcracking and concrete spalling during drilling process.

8. Powder Actuated Fasteners: Use powder actuated fasteners only for applications indicated on the Drawings or specified.
9. Studs:
   a. Butt weld with automatic stud welding gun as recommended by the manufacturer.
   b. Ensure butt weld develops full strength of the stud.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Miscellaneous metal fabrications including:
   1. Ladders.
   2. Stairs.
   3. Handrails and guardrails.
   4. Metal grating.
   5. Aluminum stair nosing.
   6. Aluminum stair tread.
   7. Manhole frame and cover.
   8. Stop plank grooves.
   9. Miscellaneous aluminum.
   10. Miscellaneous cast iron.
   11. Miscellaneous stainless steel.
   12. Miscellaneous structural steel.
   13. Associated accessories to the above items.

B. Related Sections:
   1. Section 01612 - Seismic Design Criteria.
   2. Section 05120 - Structural Steel
   3. Section 05140 – Structural Aluminum

1.02 REFERENCES

A. 2025 California Building Code (CBC)

B. Aluminum Association (AA):
   1. Specification M32-C22-A41 - Aluminum Finishes.

C. American Association of State Highway and Transportation Officials (AASHTO):
   1. Standard Specifications for Highway Bridges.

D. American Society for Testing and Materials (ASTM):
   1. A36/A36M - Specification for Structural Steel.
   2. A48 - Specification for Grey Iron Castings.
   3. A53 - Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
   4. A123 - Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
   5. A167 - Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
   6. A269 - Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
   7. A276 - Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
   8. A307 - Specification for Carbon Steel Bolts and Studs, 60,000 per square inch Tensile.
   9. A325 - Specification for High-Strength Bolts for Structural Steel Joints.

10. A489 - Specification for Carbon Steel Eyebolts.
11. A490 - Specification for Heat-Treated, Steel Structural Bolts, 150 ksi Tensile Strength.
12. A500 - Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
13. A501 - Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
14. A569 - Specification for Steel, Carbon (0.15 Maximum, Percent) Hot-Rolled Sheet and Strip, Commercial Quality.
15. A570/A570M - Specification for Hot-Rolled Carbon Steel Sheet and Strip, Structural Quality.
16. A572 – Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
17. A635/A635M - Specification for Steel, Sheet and Strip, Heavy Thickness Coils Carbon, Hot-Rolled.
18. A653/A653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-iron Alloy-coated (Galvanized) by the Hot-Dip Process.
19. A992 -Specification for Structural Steel Shapes.
20. B209 - Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
21. B429 - Specification for Aluminum-Alloy Extended Structural Pipe and Tube.
22. B782 - Standard Specification for Iron Graphite Sintered Bearings (Oil-Impregnated).

1.03 SYSTEM DESCRIPTION

A. Design Responsibility:
   1. The Contractor providing the grating, handrail, guardrail, stairs, ladders, shall be considered the designer of the system. Typical details included on the contract documents are for general minimum standard for style, size, and materials and shall be used as a guide for the contractor in designing the specific system utilized on the project.
   2. Prepare design calculations utilizing the design criteria included in these specifications.
   3. Prepare detailed shop drawings illustrating the layout of the support system and identifying the components of the support system.
   4. Seismic Design Criteria: As specified in Section 01612 for all systems utilized for the project, including any typical details included on the contract documents that are actually utilized.

1.04 SUBMITTALS

A. Shop Drawings: Submit for handrails and guardrails, including details on connection attachments, gates, kickplates, and angles.
   1. Submittal for stairs, ladders, handrails and guardrails shall include design calculations stamped and signed by a Civil or Structural Engineer registered in the State of California. The calculations shall include design for rails, post, brackets, concrete anchorage and all other component assemblies. Design shall be in accordance to the 2025 CBC.

B. Samples: Guardrails with specified finishes.

C. Quality Control Submittals:
   1. Design Data:
   2. Test Reports:

a. Gratings:
   1) Grating manufacturers' calculations showing that gratings will meet specified load-bearing and deflection requirements for each size grating for each span.
   2) Reports of tests performed under Article 2.03 herein.
b. Planks:
   1) Plank manufacturers' calculations showing that planks will meet specified load-bearing and deflection requirements for each size plank for each span.
   2) Reports of tests performed under Article 2.03 herein.

PART 2 PRODUCTS

2.01 GENERAL

A. Materials: Unless otherwise specified or indicated on the Drawings, structural and miscellaneous metals shall conform with the standards of the ASTM, including the following:

Item	ASTM Standard No.	Class, Grade Type or Alloy No.
Cast Iron		
Cast Iron	A48	Class 40B
Steel		
Galvanized sheet iron or steel	653	Coating G90
Black steel, sheet or strip	A569 A570	--
Coil (plate)	A635	--
Structural plate, bars, rolled shapes, and miscellaneous items	A36	--
Standard bolts, nuts, and washers	A307	--
High strength bolts, nuts, and hardened flat washers	A325 A490	--
Eyebolts	A489	Type 1
Tubing, cold-formed	A500	Grade B
Tubing, hot-formed	A501	--
Steel pipe	A53	Grade B
High-Strength Plates	A572	
Rolled W and WT Shapes	A992	
Stainless steel		
Plate, sheet and strip	A167	Type 304 or 316*
Bars and shapes	A276	Type 304 or 316*
Aluminum		
Sheet aluminum-flashing	B209	Alloy 5005-H14, 0.032 inches minimum

Item	ASTM Standard No.	Class, Grade Type or Alloy No.
		thickness
Sheet aluminum-structural	B209	Alloy 6061-T6
Structural aluminum	B308 B209	Alloy 6061-T6
Extruded aluminum	B221	Alloy 6063-T42
* Use Type 304L or Type 316L if material will be welded.		

B. Stainless steels are designated by type or series defined by ASTM.

C. Where stainless steel is welded, use low-carbon stainless steel.

2.02 LADDERS

A. General:
   1. Type: Safety type conforming to local, State, and Occupational Safety and Health Administration standards as minimum. Furnish guards for ladder wells.
   2. Size: 18 inches wide between side rails of length, size, shape, detail, and location indicated on the Drawings.

B. Aluminum Ladders:
   1. Materials and Fabrication: 6063-T5 aluminum alloy of welded construction.
   2. Rungs:
      a. One inch minimum square bar with 1/8 inch grooves in top and deeply serrated on all sides.
      b. Capable of withstanding 1,000 pound load without failure.
   3. Side Rails: Minimum 3 inches by 3/8 inch flat bars.
   4. Fabrication:
      a. Welded construction, of size, shape, location, and details indicated on the Drawings.
      b. For ladders over 20 feet high, furnish standard ladder cages or fall prevention system designed in accordance with State and Occupational Safety and Health Administration requirements.
      c. Fall Prevention System: Include but not limit to railing, brackets, clamps, 2 sleeves, and 2 belts satisfying Occupational Safety and Health Administration safe climbing requirements. One of the following or equal:
         1) North Consumer Products, Saf-T-Climb.
         2) Swager Communications, Climbers Buddy System.

2.03 STAIRS

A. Aluminum:
   1. Stringers: 6061-T6 aluminum alloy.
   2. Stair Treads:
      a. Aluminum of same type specified under Aluminum Grating.
      b. Of sizes indicated on the Drawings, and 1-3/4 inch minimum depth with cast abrasive type safety nosings.
      c. Provide a vertical close piese between each riser. Fabricate, install, and fasten close pieces as indicated on the Drawings.

3. Handrails and Guardrails: Aluminum pipe specified under Aluminum Handrails and Guardrails (Nonwelded Pipe).
4. Fasteners: Type 304 or Type 316 stainless steel.

2.04 HANDRAILS AND GUARDRAILS

A. General: Design and fabricate assemblies to conform to current local, State, and Occupational Safety and Health Administration standards and requirements.

B. Aluminum Handrails and Guardrails (Nonwelded Pipe):
1. Rails, Posts, and Fitting-assembly Spacers:
   a. ASTM B429, 6063-T5 or T6, minimum Schedule 40, extruded aluminum pipe of minimum 1.89 inch outside diameter and 0.14-inch wall thickness.
   b. Alloy 6063-T6 may be used for pieces requiring bending only.
2. Kick Plates: 6061-T6 aluminum alloy.
3. Fastenings and Fasteners: As recommended or furnished by the manufacturer.
4. Other Parts: 6063 extruded aluminum, or F214 or F514.0 aluminum castings.
   a. Fabrications: ASTM B209 or ASTM B221 extruded bars.
      1) Bases: 6061 or 6063 extruded aluminum alloy.
   b. Plug Screws or Blind Rivets: Type 305 stainless steel.
   c. Other Parts: Type 300 series stainless steel.
5. Finish of Aluminum Components:
   a. Anodized finish, 0.7 mil thick, applied to exposed surfaces after cutting. Aluminum Association Specification M32-C22-A41, mechanical finish-medium satin, chemical finish-medium matte, anodic coating-clear Class I Architectural.
   b. Pretreat aluminum for cleaning and removing markings before anodizing.
6. Fabrication and Assembly:
   a. Fabricate posts in single, unspliced pipe length.
   b. Perform without welding.
   c. Do not epoxy bond the parts.
   d. Maximum clear opening between assembled railing components as indicated on the Drawings.
7. Manufacturers: One of the following or equal:
   a. Moultrie Manufacturing Company, Wesrail.
   b. Julius Blum and Company, Inc., Connectorail.
   c. Craneveyor Corporation Enerco Metals, C-V Rail.

C. Picket Railing: Manufacturers: One of the following or equal:
1. Reynolds Metals Company, Architectural and Building Products Division No. 05-733.
2. Julius Blum and Company, equivalent product.
3. Craneveyor Corporation, equivalent product.

D. Steel Pipe Handrails and Guardrails:
1. Schedule 40 black steel pipe of minimum 1.9 inch outside diameter, or larger where indicated on the Drawings.
2. Fabricate posts in single, unspliced pipe length.
3. Kick Plates: Galvanized steel.
4. Attachment Devices: Provide clip angles and other fasteners necessary for securing handrails and guardrails to other construction as indicated on the Drawings.
5. Continuously weld joints and grind smooth.

6. Bend rails to profile indicated on the Drawings, without sharp bends or flat spots. Rails shall be round after bending.
7. Neatly weld intersection of rails and posts, and grind surfaces smooth.

E. Stainless Steel Pipe Handrails and Guardrails:
1. General: Prefabricated shop-assembled type, field welded type, or mechanically joined type. Manufacturers: One of the following or equal:
   a. R & B Wagner, Inc.
   b. Julius Blum and Company.
2. Materials: Type 304 or Type 316 stainless steel posts, rails, brackets, and accessory parts.
   a. Railings and Posts: Nominal 1-1/2 inch, Schedule 5 pipe with minimum 1.900 inch outer diameter and 0.065 inch wall thickness.
   b. Post Insert Reinforcing for All Posts: 1.750 inch outside diameter pipe, of 0.083 inch wall thickness, and 26 inches long.
   c. Fasteners, Connection Plates, Splice Bars, and Fittings: Type 304 or Type 316 stainless steel.
   d. Stainless Steel Finish: Number 4 NAAMM finish.
3. Fabrication:
   a. Fabricate guardrails and posts to be in same plane.
   b. Fabricate posts in single, unspliced pipe length.
   c. Make handrail and guardrail sections between splices 20 feet maximum.
   d. Form bends in pipe without use of fittings where practical. Form with internal mandrels on power benders.
   e. Where handrail and guardrail are welded, make intersections and joints with continuous 360 degree welds and grind welds smooth.
   f. Where handrail and guardrail are mechanically joined, make joints with mechanical connections utilizing stainless steel machine screws with lock washers and threaded tubular rivets.

F. Guardrail Gates:
1. Supplied by guardrail manufacturer:
   a. Of same material, quality, and workmanship as specified for guardrail system in which they will be installed.
   b. Of design similar to that of handrail or railing system in which they will be installed.
2. Components: Gate frame, stainless steel self-closing device, hinges, gate stops, and durable self-locking type latch. Fabricate components in conformance with Occupational Safety and Health Administration minimum strength requirements.

G. Fastenings and Fasteners: As recommended or furnished by guardrail manufacturer for use with this system.

2.05 METAL GRATINGS

A. General:
1. Fabricate grating to cover areas indicated on the Drawings.
2. Unless otherwise indicated on the Drawings, grating over an opening shall cover entire opening.
3. Make cutouts in grating where required for equipment access or protrusion, including valve operators or stems, and gate frames.
4. Band ends of grating and edges of cutouts in grating.
   a. End Banding: 1/4 inch less than height of grating, with top of grating and top edge of banding flush.

b. Cutout Banding: Full-height of grating.
c. Use banding of same material as grating.
d. Panel Layout: Enable installation and subsequent removal of grating around protrusions or piping.
e. Openings 6 Inches and larger: Lay out grating panels with edges of 2 adjacent panels located on centerline of opening.
f. Openings smaller than 6 Inches: Locate opening at edge of single panel.
g. Where an area requires more than 1 grating section to cover area, clamp adjacent grating sections together at 1/4 points with fasteners acceptable to ENGINEER.
h. Fabricate grating in units of maximum 50 pounds each.

5. When requested by ENGINEER, test 1 section of each size grating for each span length involved on the job under full load.
   a. Furnish a suitable dial gauge for measuring deflections.
6. Grating shall be aluminum, unless otherwise specified or indicated on the Drawings.

B. Aluminum Grating:
1. Material for Gratings, Shelf Angles, and Rebates: 6061-T6 or 6063-T6 aluminum alloy, except cross bars may be 6063-T5 aluminum alloy.
2. Material for Shelf Angle Concrete Anchors: Type 304 or Type 316 stainless steel.
3. Material for Grating Rebate Rod Anchors: 6061-T6 or 6063-T6 aluminum alloy.
4. Fabrication:
   a. Bar Size and Spacing: As determined by manufacturer to enable grating to support 180 pounds per square foot uniform live load on entire grating area, using an extreme fiber stress of 12,000 pounds per square inch maximum.
   b. Maximum Deflection Under Specified Loading: 1/240 of grating clear span maximum.
   c. Spacing of Main Grating Bars: Maximum of 1-1/8 inches clear between bars.
   d. Minimum Grating Height: 2 inches.
   e. Manufacturers: One of the following or equal:
      1) IKG Borden Industries, grooved Galok Aluminum I-Bar.
      2) Seidelhuber Metal Products, Inc., grooved I-Bar.

C. Aluminum Grating Planks:
1. Materials: Meet requirements previously specified for aluminum grating.
2. Fabrication:
   a. Meet requirements previously specified for aluminum grating.
   b. Have unpunched surface with cross hatched anti-skid surface.
   c. Minimum weight of 3-1/4 pounds per square foot.
   d. Provide 1 inch diameter hole with smooth edges at each end for each plank.
   e. Furnish planks in 3 foot widths.
   f. Manufacturers: One of the following or equal:
      1) Reynolds Aluminum Company, Model PHEX-325.
      2) IKG, Aluminum Lock-Plank.

D. Steel Gratings:
1. Hot-dip galvanized in accordance with ASTM A123.
2. Of bar size and spacing that, as determined by the manufacturer to enable grating to support a uniform live load of 180 pounds per square foot on the entire area of the grating, using an extreme fiber stress of not more than 18,000 pounds per square inch.
3. Maximum Deflection Under Loading: 1/240 of grating clear span.
4. Bar Spacing: Maximum of 1-1/8 inches clear between bars.

5. Manufacturers: One of the following or equal:
    a. IKG Borden Industries, IKG Weldforged.
    b. Seidelhuber Metal Products, Inc., Type 19W4.

E. Heavy-Duty Grating (exterior trenches):
1. Heavy-duty type, fabricated from structural steel and designed in accordance with AASHTO specifications, using H-10 loading.
2. Hot-dip galvanized after fabrication in accordance with ASTM A123.
3. Trenches 6’-6” across: Use 4” 4x3/8 W-15-4.
4. Trenches 5’-6” across: Use 4”x5/8 W-19-4.
5. Provided tabs with threaded holes as indicated on the drawings for tread plate hold downs.
6. Provided 3/16 hot dipped galvanized steel tread plate with hold down bolt tabs over grating as indicated on the drawings.
7. Manufacturers: One of the following or equal:
    a. Grating Pacific

2.06 ALUMINUM STAIR NOSING

A. Material: Aluminum abrasive cast nosings with aluminum oxide granules integrally cast into metal, forming permanent, nonslip, long-wearing surface.

B. Manufacturers: One of the following or equal:
1. Wooster Products, Inc., Type 101 Stair Tread.
2. American Abrasive Metals Company, Type A Stair Treads.

2.07 ALUMINUM STAIR TREAD

A. Four inches wide, fabricated with integrally cast anchors. Length to extend within 3 inches of stair edges.

B. Bolts, Where Required: Type 316 stainless steel.

2.08 MANHOLE FRAMES AND COVERS

A. Material: Gray iron castings, ASTM A48, Class 30-B.
B. Match City Standard: Pinkerton or approved equal. See City Standard Detail S-4.
1. Frame Part No. A-625
2. Cover Part No. A-103
3. Stamped "Sewer"

C. Type: Heavy-duty traffic type, with combined set weight of minimum 265 pounds.

D. Machine horizontal and vertical bearing surfaces to fit neatly, with easily removable cover bearing firmly in frame without rocking.

E. Frame:
1. Bottom flange type.
2. Approximately 4-1/2 inches frame height.
3. 24 inches diameter clear inside dimension, unless otherwise indicated on the Drawings.
4. Approximately 32 inches bottom flange outside diameter.

F. Cover:
   1. Skid-resistant grid pattern design stamped with name of utility service provided by manhole, such as "ELECTRICAL," "SEWER," "TELEPHONE," or "WATER."
   2. Solid type without ventilation holes.

G. Finish: Unpainted.

2.09 CAST IRON STOP PLANK GROOVES

A. Manufacturers: One of the following or equal:
   1. Neenah Foundry Company, R-7500 Series, Type A.
   2. McKinley Iron Works, Type L.

B. Size: 2 inch wide groove opening by 1-1/2 inch deep, unless otherwise indicated on the Drawings.

C. Recess groove with the cast iron surface of the groove set flush with the concrete surface.

2.10 MISCELLANEOUS ALUMINUM

A. General: Fabricate aluminum products, not covered separately herein, in accordance with the best practices of the trade and field assemble by riveting or bolting. Do not weld or flame cut.

2.11 MISCELLANEOUS CAST IRON

A. General:
   1. Tough, gray iron, free from cracks, holes, swells, and cold shuts.
   2. Quality such that hammer blow will produce indentation on rectangular edge of casting without flaking metal.
   3. Before leaving the foundry, clean castings and apply 16 mil dry film thickness coating of coal-tar epoxy, unless otherwise specified or indicated on the Drawings.

2.12 MISCELLANEOUS STAINLESS STEEL

A. Provide miscellaneous stainless steel items not specified herein as indicated on the Drawings or specified elsewhere. Fabricate and install in accordance with the best practices of the trade.

2.13 MISCELLANEOUS STRUCTURAL STEEL

A. Provide miscellaneous steel items not specified herein as indicated on the Drawings or specified elsewhere. Fabricate and install in accordance with the best practices of the trade.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine work in place to verify that it is satisfactory to receive the work of this Section. If unsatisfactory conditions exist, do not begin this work until such conditions have been corrected.

3.02 INSTALLATION, GENERAL

A. Install products as indicated on the Drawings, and in accordance with shop drawings and manufacturer's printed instructions, as applicable except where specified otherwise.

3.03 STAIRS

A. General: Install guard railings around stair wells as indicated on the Drawings or specified.

3.04 LADDERS

A. Secure to supporting surface with bent plate clips providing minimum 8 inches between supporting surface and center of rungs.

B. Where exit from ladder is forward over top rung, extend side rails 3 feet 3 inches minimum above landing, and return the rails with a radius bend to the landing.

C. Where exit from ladder is to side, extend ladder 5 feet 6 inches minimum above landing and rigidly secure at top.

D. Erect rail straight, level, plumb, and true to position indicated on the Drawings. Correct deviations from true line or grade which are visible to the eye.

3.05 ALUMINUM HANDRAIL AND GUARDRAIL

A. Fasten pipe rails to fittings with Series 300 stainless steel pop rivets or flush set screws.

B. Make pipe cuts clean and straight, free of burrs and nicks, and square and accurate for minimum joint-gap.

C. Drill and countersink holes to proper size, as required for a tight flush fit of screws and other component parts.

D. Space attachment brackets as indicated in the manufacturer's instructions.

3.06 GUARDRAIL GATES

A. Install gate to be a vertical plane with the guardrail when in the closed position.

B. Install hinges so that each gate can swing 180 degrees from the closed position to the fully open position.

C. Install so that the gates swing to the walkway side of the guardrail only. Install gate stops on the stationary railing posts to prohibit gates from swinging in the wrong direction.

D. Install gate frames, hinges, stops, and latches in conformance with Occupational Safety and Health Administration minimum strength requirements.

3.07 ALUMINUM AND STAINLESS STEEL PIPE HANDRAILS AND GUARDRAILS

A. During construction, keep exterior surfaces of handrails and guardrails covered with 0.4 millimeters, minimum, heat shrink polyethylene film.

B. Do not remove protective film before handrails and guardrails have been accepted by ENGINEER nor before other work in proximity of handrails and guardrails has been completed.

C. Discontinue handrails and guardrails at lighting fixtures.

D. Provide 1/8 inch diameter weep hole at base of each post.

E. Where protection is applied for prevention of dissimilar materials electrolysis, make application such that none of the protective material is visible in the completed assembly.

F. Space posts as indicated on the Drawings.

G. Anchor posts into concrete by grouting posts into core drilled holes in concrete, into stainless steel sleeves cast in concrete; or bracket mount to face of concrete surfaces; as specified and indicated on the Drawings.

H. Space rails as indicated on the Drawings.

I. Make adequate provision for expansion and contraction of kickplates and rails. Make provisions for removable sections where indicated on the Drawings.

J. Make lower rails a single, unspliced length between posts, or continuous.

K. Make top rails continuous whenever possible, and attach single, unspliced lengths to 3 posts minimum.

L. Draw up fasteners tight with hand wrench or screw driver.

M. Space attachment brackets as indicated on shop drawings or in manufacturer's installation instructions.

N. Completed installation shall have handrails and railings rigid and free of play at joints and attachments.

O. Protect handrail and guardrail finish from scratches, gouges, dents, stains, and other damage.

P. Replace damaged or disfigured handrails and guardrails with new.

Q. Shortly before final acceptance of the work, and after removal of protective polyethylene film, clean handrails and guardrails with mild detergent or with soap and water.

R. After cleaning, thoroughly rinse handrails and guardrails and wipe with soft cloth.

S. Erect guardrail straight, level, plumb, and true to the positions as indicated on the Drawings. Correct deviations from true line of grade which are visible to the eye.

3.08 STEEL PIPE GUARDRAIL

A. Anchor posts into concrete by grouting posts into galvanized steel sleeves embedded in concrete or into core drilled holes in concrete as indicated on the Drawings. Do not cut reinforcing bars in concrete. Where required to fasten guardrail to other construction, fasten as indicated on the Drawings.

3.09 GRATING

A. Coat surfaces of aluminum shelf angles, rebates, and rod anchors in contact with concrete with Alkali Resistant Bitumastic.

B. Aluminum Grating: Support on aluminum shelf angles.

C. Aluminum Grating Planks: Support and install planks as specified for aluminum grating.

D. Steel Grating: Support on hot-dip galvanized structural steel shelf angles.

E. Heavy-duty Steel Grating:
   1. Support on hot-dip galvanized structural steel shelf angles embedded and anchored in concrete.
   2. Use for roadways, traffic areas, and where indicated on the Drawings.

F. Allow 1/8 inch maximum clearance between ends of grating and inside face of vertical leg of shelf angles.

G. Horizontal bearing leg of shelf angles shall be 2 inches minimum.

H. Install aluminum plate or angles where necessary to fill openings at changes in elevation and at openings between equipment and grating.

I. Install angle stops at ends of grating.

J. Installed grating shall not slide out of rebate or off support.

K. Weld stops in place, unless otherwise specified or indicated on the Drawings.

L. Top surfaces of grating sections adjacent to each other shall lie in same plane.

M. Recess stop plank grooves with cast iron surfaces of groove set flush with concrete surface.

3.10 STAIR NOSINGS

A. Install stair nosings on treads of concrete stairs, including top tread on upper slab.

B. Cast stair nosings in fresh concrete, flush with tread and riser faces.

3.11 MANHOLE FRAMES AND COVERS

A. Set manhole covers flush with paving. Where no paving exists, set manhole cover 6 inches above surrounding grade.

3.12 MANHOLE STEPS

A. Space as indicated on the Drawings.

END OF SECTION

SECTION 09960

HIGH PERFORMANCE COATINGS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Field applied high performance coatings for all surfaces listed in Section 09960-3.15. All other surfaces shall be coated in accordance with Section 09910.

B. Related Sections:
1. Section 01312 - Project Meetings.
2. Section 01330 - Submittal Procedures.
3. Section 01352 - Alteration Project Procedures.
4. Section 01770 - Closeout Procedures.
5. Section 09910 - Paints: Painting for normal exposures.

1.02 REFERENCES

A. NSF International (NSF):
1. 61 - Drinking Water System Components - Health Effects.

B. Steel Structure Painting Council (SSPC):
1. SP-1 - Solvent Cleaning.
2. SP-2 - Hand Tool Cleaning.
3. SP-3 - Power Tool Cleaning.
4. SP-5 - White Blast Cleaning.
5. SP-6 - Commercial Blast Cleaning.
6. SP-7 - Brush-Off Blast Cleaning.
7. SP-10 - Near-White Blast Cleaning.

C. Underwriters Laboratory, Inc. (UL):
1. 3P83 - Drinking Water System Components - Health Effects.

1.03 DEFINITIONS

A. Submerged Metal: Steel or iron surfaces below tops of channel or structure walls which will contain water even when above expected water level.

B. Submerged Concrete and Masonry Surfaces: Surfaces which are or will be:
1. Underwater.
2. In structures which normally contain water.
3. Below tops of walls of water containing structures.

C. Dry Film Thickness: Thickness of fully cured coating, measured in mils.

D. Volatile Organic Compound: As defined in Section 09910.

1.04 PERFORMANCE REQUIREMENTS

A. Coating materials for concrete and metal surfaces shall be especially adapted for use in wastewater treatment plants.

B. Coating for final coats shall be fume resistant, compounded with pigment suitable for exposure to sewage gases, especially to hydrogen sulfide and to carbon dioxide.

C. Pigments shall be materials that do not darken, discolor, or fade due to action of sewage gases.

D. Coating materials used in conjunction with potable water supply systems shall be certified to NSF 61 or UL 3P83.

1.05 SUBMITTALS

A. Shop Drawings: Submit as specified in Sections 01330 and 09910

B. Product Data: Submit as specified in Sections 01330 and 09910
   1. Regulatory Requirements: Include requirements concerning the following
      a. Volatile organic compound limitations.
      b. Coatings containing lead compounds.
      c. Abrasives and abrasive blast cleaning techniques, and disposal.
      d. NSF or UL certification of coatings for use in potable water supply systems.

C. Samples: Submit as specified in Sections 01330 and 09910

D. Certificates: Submit in accordance with requirements for Product Data.

E. Manufacturer's Instructions: Submit in accordance with requirements for Product Data and as specified in Section 09910

F. Manufacturer's Field Reports: Submit for ENGINEER's record only.

G. Operations and Maintenance Data: Submit as specified in Section 01770

1.06 QUALITY ASSURANCE

A. Qualifications of Applicator:
   1. Minimum of 5 years experience applying specified type or types of coatings under conditions similar to those of the Work.
   2. Manufacturer approved applicator when manufacturer has approved applicator program.
   3. Approved and licensed by polymorphic polyester resin manufacturer to apply polymorphic polyester resin coating system.
   4. Applicator of off-site application of coal tar epoxy shall have successfully applied coal tar epoxy on similar surfaces in material, size, and complexity as on the Project.

B. Regulatory Requirements: Comply with governing agencies regulations by using coatings that do not exceed permissible volatile organic compound limits and do not contain lead.

C. Certification: Certify that applicable pigments are resistant to discoloration or deterioration when exposed to hydrogen sulfide and other sewage gases and product data fails to designate coating as "fume resistant".

D. Field Samples: Prepare and coat a minimum 100 square foot area between corners or limits such as control or construction joints of each system. Approved field sample may be part of Work.

E. Pre-installation Conference: Conduct as specified in Section 01312

F. Compatibility of Coatings: Use products by same manufacturer for prime coats, intermediate coats, and finish coats on same surface, unless specified otherwise.

1.07 PROJECT CONDITIONS

A. Environmental Conditions: As specified in Section 09910

1.08 SEQUENCING AND SCHEDULING

A. Sequence and Schedule: As specified in Section 01352

1.09 MAINTENANCE

A. Extra Materials: Provide as specified in Section 09910

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Special Coatings: One of the following or equal:
1. Ameron: Ameron Protective Coatings Division, Brea, CA.
2. Carboline: Carboline, St. Louis, MO.
3. Cook: Sherwin-Williams Co., Cleveland, OH.
4. Devoe: Devoe Coatings, Louisville, KY.
5. IET: Integrated Environmental Technologies, Santa Barbara, CA.
6. International: International Protective Coatings, Houston, TX.
7. Keeler: Keeler & Long Inc., Watertown, CT.
8. Kop-Coat: Carboline, St. Louis, MO.
9. PPC:: Polymorphic Polymers Corp., N. Miami, FL.
10. Sanchem: Sanchem, Chicago, IL.
11. S-W: Sherwin-Williams Co., Cleveland, OH.
12. Tnemec: Tnemec Co., Kansas City, MO.
13. Madwell Products Corporation, Alpharetta, Georgia

2.02 PREPARATION AND PRETREATMENT MATERIALS

A. Metal Pretreatment: As manufactured by one of the following or equal:
1. Ameron: Galvaprep.
2. Devoe: Vy-Kote 443.
3. International: Galvaprep 5 or Alumiprep 33.
4. Kop-Coat: No. 40 Metal Conditioner.
5. S-W: P60G2, Wash Primer.
6. Tnemec: Tneme-Grip 32-1210.

B. Surface Cleaner and Degreaser: As manufactured by one of the following or equal:
   1. Devoe: Devprep 88.

2.03 COATING MATERIALS

A. Alkali Resistant Bitumastic: As manufactured by one of the following or equal:
   1. Kop-Coat: Bitumastic Super Service Black
   2. International: Intertuf 100.
   3. Tnemec: 449, Heavy Duty Black.

B. Wax Coating: As manufactured by one of the following or equal:
   1. Sanchem: No-Ox-Id A special.

C. High Solids Epoxy Primer (Not less than 80 Percent Solids by Volume): As manufactured by one of the following or equal:
   1. Ameron: Amerlock 400.
   2. Devoe: Bar Rust 233H.
   3. International: Intergard 750 HS.
   4. Kop Coat: Super Hi-Gard.
   5. Tnemec: Series 104 H.S. Epoxy.

D. High Solids Epoxy (Not less than 80 Percent Solids by Volume): As manufactured by one of the following or equal:
   1. Ameron: Amerlock 400.
   2. Devoe: Bar Rust 233H.
   3. International: Intergard 565HS.
   4. Kop Coat Super Hi-Gard..Tnemec: Series 135 Chembuild.

E. Aliphatic or Aliphatic-acrylic Polyurethane: As manufactured by one of the following or equal:
   1. Ameron: Amercoat 450HS.
   2. Devoe: Devthane 379
   3. International: Interthane 990 HS.
   4. Kop Coat: 134, High Solids Carboline.
   5. Tnemec: Series 75, Semi-Gloss Endura-Shield.

F. Polymorphic Polyester Resin Coating System: Two component, modified styrene based thermoset resin, EPA approved for potable water, with 100 percent solids and maximum 10 grams per liter volatile organic compounds. Final coat color as selected by ENGINEER. As manufactured by one of the following or equal:
   1. IET: IET Prime Coat DS-101, Intermediate Coat DS-301, and Finish Coat DS-401.
   2. PPC: PPC Prime Coat, IC-Filler Coat, and FC-Final Coat.

G. Asphalt Varnish: AWWA C 500.

H. Protective Coal Tar: As manufactured by one of the following or equal:
   1. Kop-Coat: Bitumastic No. 50.
   2. S-W: Cooper Black, No. 750.
   3. Tapecoat Co.: T.C. Mastic.

I. Coal Tar Epoxy: As manufactured by one of the following or equal:
   1. Ameron: 78HB.
   2. International: Intertuf 708 HS.
   3. Kop-Coat: 300-M, Bitumastic.

4. S-W: B69B40/B60V40, Hi-Mil Sher-Tar.
5. Tnemec: Series 60.

J. Concrete Restoration With 100% Epoxy Coating the following no equal:
1. Concrete repair material: Madwell Mainstay ML-72
2. 100% Epoxy material: Madwell Mainstay DS-4.

K. Hydro-POX 204 UHB, no Equal:
1. 100% Solids, 2 component, 1:1 By volume Epoxy Liner System
2. Hydro-POX 204 UHB

2.04 MIXES

A. Mix epoxy parts in accordance with manufacturer's instructions.

B. Mix coal tar epoxy in containers furnished by manufacturer for mixing purposes. Mix unit quantities only. Use power mixer for minimum time recommended by manufacturer. Do not include time during pouring or stirring in mixing time.

PART 3 EXECUTION

3.01 GENERAL PREPARATION

A. Prepare surfaces in accordance with coating manufacturer's instructions, unless more stringent requirements are specified in this Specification.

B. Protect following surfaces from abrasive blasting as specified in Section 09910, by masking, or other means:
1. Threaded portions of valve and gate stems.
2. Machined surfaces for sliding contact.
3. Surfaces to be assembled against gaskets.
4. Surfaces of Shafting on which sprockets are to fit.
5. Surfaces of shafting on which bearings are to fit.
6. Machined surfaces of bronze trim, including those slide gates.
7. Cadmium-plated items except cadmium-plated, zinc-plated, or sherardized fasteners used in assembly of equipment requiring abrasive blasting.
8. Galvanized items, unless scheduled to be coated.

C. Protect installed equipment, mechanical drives, and adjacent coated equipment from abrasive blasting to prevent damage caused by entering sand or dust.

D. Concrete: Clean concrete surfaces of dust, mortar, fins, loose concrete particles, form release materials, oil, and grease. Fill voids so that surface is smooth. Etch or brush off-blast clean (SSPC SP-7) as recommended by coating manufacturer.

E. Ferrous Metal Surfaces:
1. Remove grease and oil in accordance with SSPC SP-1.
2. Remove rust, scale, and welding slag and spatter, and prepare surfaces in accordance with SSPC SP-2 through SP-10.
3. Abrasive blast surfaces prior to coating.
4. When abrasive blasted surfaces rust or discolor before coating, abrasive blast surfaces again to remove rust and discoloration.
5. When metal surfaces are exposed because of coating damage, abrasive blast surfaces before touching-up.

F. Ferrous Metal Surfaces Not to be Submerged: Abrasive blast in accordance with SSPC SP-6, unless blasting may damage adjacent surfaces, prohibited or specified otherwise. Where not possible to abrasive blast, power tool clean surfaces in accordance with SSPC SP-3.

G. Ferrous Metal Surfaces to be Submerged: Unless specified otherwise, abrasive blast in accordance with SSPC SP-10 or better to clean and provide roughened surface profile of not less than 2 mils and not more than 4 mils in depth when measured with Elcometer 123, or as recommended by the coating manufacturer.

H. Sherardized, Aluminum, Copper, and Bronze Surfaces: Prepare in accordance with paint manufacturer's instructions.

I. Galvanized Surface:
   1. Degrease or solvent clean to remove oily residue.
   2. Power tool or hand tool clean or whip abrasive blast.
   3. Apply metal pretreatment within 24 hours before coating galvanized surfaces that cannot be thoroughly abraded physically, such as bolts, nuts, or preformed channels.

J. Shop Primed Metal:
   1. Remove shop primer from metal to be submerged by abrasive blasting in accordance with SSPC SP-10, unless greater degree of surface preparation is required by manufacturer of coating system.
   2. Correct abraded, scratched or otherwise damaged areas of shop prime coat by sanding or abrasive blasting in accordance with SSPC SP-6.
   3. When entire shop priming fails or has weathered excessively, or when recommended bycoating manufacturer, abrasive blast shop prime coat to remove entire coat and prepare surface in accordance with SSPC SP-10.
   4. When incorrect prime coat is applied, remove incorrect prime coat by abrasive blasting in accordance with SSPC SP-10.
   5. When prime coat not authorized by ENGINEER is applied, remove unauthorized prime coat by abrasive blasting in accordance with SSPC SP-10.
   6. Shop Applied Bituminous Paint (Asphalt Varnish): Abrasive blast clean shop applied bituminous paint or asphalt varnish from surfaces scheduled to receive non-bituminous coatings.

K. Abrasive blast cadmium-plated, zinc-plated, or sherardized fasteners in same manner as unprotected metal when used in assembly of equipment designated for abrasive blasting.

L. Abrasive blast components to be attached to surfaces which cannot be abrasive blasted before components are attached.

M. Grind sharp edges to approximately 1/8 inch radius.

3.02 GENERAL PROTECTION

A. Protect adjacent surfaces not to be coated from spatter and droppings with drop cloths and other coverings.
   1. Mask off surfaces of items not to be coated or remove items from area.

3.03 GENERAL APPLICATION REQUIREMENTS

A. Apply coatings in accordance with manufacturer's instructions.

B. Coat metal unless specified otherwise.

C. Verify metal surface preparation immediately before applying coating in accordance with SSPC Pictorial Surface Preparation Standard.

D. Allow surfaces to dry, except where coating manufacturer requires surface wetting before coating.

E. Wash coat and prime sherardized, aluminum, copper, and bronze surfaces, or prime with manufacturer's recommended special primer.

F. Prime shop primed metal surfaces. Spot prime exposed metal of shop primed surfaces before applying primer over entire surface.

G. Apply minimum number of specified coats.

H. Apply coats to thicknesses specified, especially at edges and corners.

I. Apply additional coats when necessary to achieve specified thicknesses.

J. Coat surfaces without drops, ridges, waves, holidays, laps, or brush marks.

K. Remove spatter and droppings after completion of coating.

L. When multiple coats of same material are specified, tint prime coat and intermediate coats with suitable pigment to distinguish each coat.

M. Dust coatings between coats. Lightly sand and dust surfaces to receive high gloss finishes, unless instructed otherwise by coating manufacturer.

N. Apply coating by brush, roller, trowel, or spray, unless particular method of application is required by coating manufacturer's instructions or these Specifications.

O. Spray Application:
   1. When using spray application, apply coating to thickness not greater than that suggested in coating manufacturer's instructions for brush coat application.
   2. Use airless spray method, unless air spray method is required by coating manufacturer's instruction or these Specifications.
   3. Conduct spray coating under controlled conditions. Protect adjacent construction and property from coating mist or spray.

P. Drying and Recoating:

1. Limit drying time to that required by these Specifications or coating manufacturer's instructions.
2. Do not allow excessive drying time or exposure which may impair bond between coats.
3. Recoat epoxies within time limits recommended by epoxy manufacturer.
4. When time limits are exceeded, abrasive blast coat prior to applying another coat.
5. When limitation on time between abrasive blasting and coating cannot be met before attachment of components to surfaces which cannot be abrasive blasted, coat components before attachment.
6. Ensure primer and intermediate coats of coating are unscarred and completely integral at time of application of each succeeding coat.
7. Touch up suction spots between coats and apply additional coats where required to produce finished surface of solid, even color, free of defects.
8. Leave no holidays.
9. Sand and recoat scratched, contaminated, or otherwise damaged coating surfaces so damages are invisible to naked eye.

3.04 ALKALI RESISTANT BITUMASTIC

A. Preparation:
   1. Prepare surfaces in accordance with general preparation requirements.

B. Application:
   1. Apply in accordance with general application requirements and as follows:
      a. Apply at least 2 coats, 8 to 14 mils dry film thickness each.

3.05 WAX COATING

A. Preparation:
   1. Prepare surfaces in accordance with general preparation requirements.

B. Application:
   1. Apply in accordance with general application requirements and as follows:
      a. Apply at least 1/32 inch thick coat with 2 inch or shorter bristle brush.
      b. Thoroughly rub coating into metal surface with canvas covered wood block or canvas glove.

3.06 HIGH SOLIDS EPOXY SYSTEM

A. Preparation:
   1. Prepare surfaces in accordance with general preparation requirements and as follows:
      a. Abrasive blast ferrous metal surfaces to be submerged at jobsite in accordance with SSPC SP-10 prior to coating. When cleaned surfaces rust or discolor, abrasive blast surfaces in accordance with SSPC SP-10.
      b. Abrasive blast non-submerged ferrous metal surfaces at jobsite in accordance with SSPC SP-6, Commercial Blast Cleaning, prior to coating. When cleaned surfaces rust or discolor, abrasive blast surfaces in accordance with SSPC SP-6.

B. Application:
   1. Apply coatings in accordance with general application requirements and as follows:
      a. Apply minimum 2 coat system with total dry film thickness of 10 mils.

b. Recoat or apply succeeding epoxy coats within time limits recommended by manufacturer. Prepare surfaces for recoating in accordance with manufacturer's instructions.
c. Coat metal to be submerged before installation when necessary, to obtain acceptable finish and to prevent damage to other surfaces.
d. Coat entire surface of support brackets, stem guides, pipe clips, fasteners, and other metal devices bolted to concrete.
e. Coat surface of items to be exposed and adjacent 1 inch to be concealed when embedded in concrete or masonry.

3.07 EPOXY AND POLYURETHANE COATING SYSTEM

A. Preparation:
1. Prepare surfaces in accordance with general preparation requirements and as follows:
a. Prepare concrete surfaces as for coal tar epoxy.
b. Touch up shop primed steel and miscellaneous iron.
c. Abrasive blast ferrous metal surfaces at jobsite in accordance with Steel Structures Painting Council SP-6, Commercial Blast Cleaning, prior to coating. When cleaned surfaces rust or discolor, abrasive blast surfaces in accordance with Steel Structures Painting Council SP-6.
d. Degrease or solvent clean, whip abrasive blast, power tool, or hand tool clean galvanized metal surfaces.
e. Lightly abrasive blast or sand fiberglass and plastic to be coated to roughen surfaces prior to coating.

B. Application:
1. Apply coatings in accordance with general application requirements and as follows:
2. Apply 3 coat system consisting of:
a. Primer: 4 to 5 mils dry film thickness high solids epoxy primer,
b. Intermediate Coat: 4 to 5 mils dry film thickness high solids epoxy intermediate coat, and
c. Top Coat: 2.5 to 3.5 mils dry film thickness aliphatic or aliphatic-acrylic polyurethane topcoat.
3. Recoat or apply succeeding epoxy coats within 30 days or within time limits recommended by manufacturer, whichever is shorter. Prepare surfaces for recoating in accordance with manufacturer's instructions.

3.08 POLYMORPHIC POLYESTER RESIN SYSTEM

A. Preparation:
1. Prepare surfaces in accordance with general preparation requirements and as follows:
2. Prepare concrete to obtain clean, open pore with exposed aggregate in accordance with manufacturer's instructions.
3. Prepare ferrous metal surfaces in accordance with SSPC SP-5, White Metal Finish, with coating manufacturer's recommended anchor pattern.
4. Complete abrasive blast cleaning within 6 hours of applying prime coat. When cleaned surfaces rust or discolor, abrasive blast surfaces in accordance with SSPC SP-5.
5. When handling steel, wear gloves to prevent hand-printing.
6. Adjust pH of concrete to within 5.5 to 8.0 before applying prime coat.

B. Application:
   1. Apply coatings in accordance with general application requirements and as follows:
   2. Apply minimum dry film thickness system consisting of primer, tie coat and top coat in accordance with manufacturer's instructions as follows:
      a. Steel: 35 mils.
      b. Concrete: 45 mils.

3.09 ASPHALT VARNISH

A. Preparation:
   1. Prepare surfaces in accordance with general preparation requirements.

B. Application:
   1. Apply coatings in accordance with general application requirements and as follows:
      a. Apply minimum 2 coats.

3.10 PROTECTIVE COAL TAR

A. Preparation:
   1. Prepare surfaces in accordance with general preparation coal tar requirements.

B. Application:
   1. Apply coatings in accordance with general application requirements and as follows:
      a. Apply minimum 20 mils dry film thickness coating.

3.11 COAL TAR EPOXY

A. Preparation:
   1. Prepare surfaces in accordance with general preparation requirements and as follows:
      a. Abrasive blast iron or steel surfaces to be coated as submerged metal in accordance with SSPC SP-5. Prepare other metal surfaces to be coated with coal tar epoxy in accordance with epoxy manufacturer's instructions.

B. Application:
   1. Apply coatings in accordance with general application requirements and as follows:
      a. Apply two 8 mils dry film thickness coats.
      b. Apply coal tar epoxy on blasted steel on same day that steel is blasted.
      c. Apply succeeding coats over previous coat as soon as application does not cause sagging, within the following times, or as recommended by the coating manufacturer, whichever is sooner.

Average Temperature (Degrees Fahrenheit)	Maximum Time Between Coats (Hours)
50 to 60	36
60 to 70	24

70 to 80	12
80 to 120	4

d. Apply additional coats required to obtain specified thickness.
e. When previous coat has cured or set or Maximum Time Between Coats has lapsed, abrasive blast previous coat until surface film is removed. Wash and clean surface with cleaning solvent. Apply succeeding coat within Maximum Time Between Coats or as recommended by coating manufacturer, whichever is sooner.
f. When succeeding coat is applied over previous coat which has cured or set or Maximum Time Between Coats has lapsed, and surface has not been abrasive blasted, remove entire coating system to substrate, and apply new coating system.
g. Where coating system is applied to exterior concrete surfaces below grade, extend system at least 3 inches above finish grade in straight level. Step extended system down 3 inches when extended system reaches 6 inches above finish grade.

3.12 Concrete Restoration With 100% Epoxy Coating Preparation:

1. Prepare surfaces in accordance with general preparation requirements and as follows:
2. Mechanically remove all loose concrete material.
3. Abrasive blast all concrete and metal surfaces to be coated in accordance with SSPC SP-5.
4. Prepare all surfaces to be coated with in accordance with epoxy manufacturer's instructions.

B. Application:

1. Apply cementacious (ML-72) and 100% epoxy coatings (DS-4) in accordance with the manufacturers general application requirements and as follows:
2. Apply to 1" thickness of cementacious coating.
3. Apply 100% epoxy to 100 mills on top of cementacious.

3.13 Hydro-POX

A. Preparation:

1. Prepare surfaces in accordance with general preparation requirements and as follows:
2. Mechanically remove all loose material.
3. Abrasive blast all concrete and metal surfaces to be coated in accordance with SSPC SP-10.
4. Prepare all surfaces to be coated with in accordance with epoxy manufacturer's instructions.

B. Application:

1. Apply Hydro-POX in accordance with the manufacturers general application requirements and as follows:
2. Apply to 100 mils minimum thickness.

3.14 FIELD QUALITY CONTROL

A. Each coat will be inspected. Strip and remove defective coats, prepare surfaces and recoat. When approved, apply next coat.

B. Control and check dry film thicknesses and integrity of coatings.

C. Measure dry film thickness with calibrated thickness gauge.

D. Dry film thicknesses may be checked with Elcometer or Positector 2000.

E. Verify coat integrity with low-voltage holiday detector. Allow ENGINEER to use detector for additional checking.

F. Check wet film thickness before coating cures on concrete or non-ferrous metal substrates.

G. OWNER may test any and all coatings with destructive and non-destructive testing. CONTRACTOR shall accommodate and assist OWNER and OWNER's inspector with testing all testing and repair test areas at no additional cost to the OWNER.

3.15 SCHEDULE OF ITEMS NOT REQUIRING COATING

A. Items that have received final coat at factory and not listed to receive coating in field.

B. Aluminum, brass, bronze, copper, rubber, stainless steel, chrome, everdur, or lead unless noted below (except st. steel electrical panels at Plant No. 1).

C. Buried or encased piping or conduit.

D. Exterior Concrete.

E. Galvanized pipe trays and cable trays unless noted below.

F. Grease fittings.

G. Fiberglass ducting or tanks in concealed locations unless noted below.

H. Steel to be encased in concrete or masonry unless noted below.

3.16 SCHEDULE OF SURFACES TO BE COATED IN THE FIELD

A. In general, apply coatings to steel, iron, plastic, and wood surfaces unless specified or otherwise indicated on the Drawings. Coat concrete surfaces and anodized aluminum only when specified or indicated on the Drawings.

B. Following schedule is incomplete. Coat unlisted surfaces with same coating system as similar listed surfaces. Verify questionable surfaces.

C. Concrete:
   1. High Solids Epoxy:
      a. Safety markings.
      b. Sewer Manhole in Burns Drive
   2. Manhole in Burns Drive
      a. Hydro-POX
   3. Manhole at Septage Station
      a. PVC liner as noted on the Drawings

D. Pipe:
   1. All new pipe shall be coated in accordance with Section 15052 pipe schedule and as listed in 3.15.E and 3.15F.

E. Metals:
   1. Alkali Resistant Bitumastic:
      a. Aluminum surfaces to be placed in contact with wood, concrete, or masonry.
   2. Epoxy and Polyurethane System: Non-immersed ferrous metal surfaces including
      a. All new piping, supports, and valves at the septage receiving station.
      b. Owner supplied equipment per Section 11010 does not need to be coated.
   3. Protective Coal Tar:
      a. Underground pipe flanges, excluding pipe, corrugated metal pipe couplings, flexible pipe couplings and miscellaneous underground metals not otherwise specified to receive another protective coating.
      b. Underground Metal Pipe including Stainless Steel Pipe.
   4. Coal Tar Epoxy:
      a. Underground Metal Pipe including Stainless Steel Pipe.
   5. Stair Safety Markings
      a. Epoxy Polyurethane – Safety Yellow

F. Plastic and Fiberglass:
   1. Epoxy and Polyurethane System: Surfaces including
      a. All new pipe, valves, pipe hangers, supports and saddles, conduit, cable tray hangers, and supports.

END OF SECTION

SECTION 10400

IDENTIFICATION DEVICES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Plastic and metal signs.

1.02 SUBMITTALS

A. Product Data.

B. Shop Drawings: Include lists of sign types, sizes, text, and colors; mounting details; locations; and cast metal plaque rubbings and templates.

C. Samples: Include actual materials.

D. Manufacturer's Installation Instructions.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer of proposed products for minimum 5 years with satisfactory performance record of minimum 5 years.

B. Installer Qualifications: Manufacturer approved installer of products similar to specified products on minimum 10 projects of similar scope as Project with satisfactory performance record.

C. Regulatory Requirements: Provide signage in accordance with Americans with Disabilities Act as published in the Federal Register, Volume 56.

PART 2 PRODUCTS

2.01 METAL SAFETY SIGNS

A. Manufacturer: Meeting OSHA Requirements; 40 Mil Thick Aluminum with Baked Enamel Finish. One of the following or equal:
   1. Seton Name Plate Co., New Haven, CT, Style SW-G, Special Wording.

B. Danger Sign Colors:
   1. Background: White.
   2. Heading: White lettering on red oval with white border in black rectangular panel.
   3. Message: Black lettering on white.

C. Caution Sign Colors:
   1. Background: Yellow.
   2. Heading: Yellow lettering on black rectangular panel.
   3. Message: Black lettering on yellow.

D. Safety Instruction Signs:

1. Background: White.
2. Heading: White lettering on green rectangular panel.
3. Message: Black lettering.

E. Location, Text: As scheduled in Attachment A.

F. Fasteners: Round head stainless steel bolts or screws.

2.02 NON-ELECTRICAL NAMEPLATES

A. Material and Fabrication: Stainless steel sheet, engraved or stamped with text, holes drilled or punched for fasteners.

B. Fasteners: Number 4 or larger oval head stainless steel screws or drive pins.

C. Text: Manufacturer's name, equipment model number and serial number, identification tag number, and when appropriate, drive speed, motor horsepower and rated capacity, pump rated total dynamic head and impeller size.

2.03 ELECTRICAL NAMEPLATES

A. Material and Fabrication: Black lamicoid with white letters, holes drilled for fasteners.

B. Fasteners: Number 4 or larger oval head stainless steel screws or drive pins.

C. Text: Purpose and identification of load power source and circuit number for each disconnect means of service, feeder, branch, or equipment conductors and push-button station.

2.04 IDENTIFICATION DEVICES

A. Manufacturer: One of the following or equal:
1. Seton Name Plate Co., New Haven, CT.

B. Underground Warning Tapes: Metallic detection tape; minimum 4 mil thick by 6 inch wide polyethylene film with wording, caution, and name of service followed by words, line buried below, repeated continuously along tape length, and alternate metallic and color strips, blue for water, orange for telephone, red for electric, green for sewer, yellow for gas and other services.

C. Voltage Appliques: Seton-Code, vinyl with pressure sensitive adhesive, orange color, 9 by 2-1/4 inches, approximately 1-1/4 inch high letters indicating voltage and word, volts.

D. Hazard Material Signals: In accordance with NFPA Coding System and NFC Standard 79-3; vinyl panels, letters, and symbols with pressure sensitive adhesive, sizes as required for viewing distances, letters and symbols in accordance with Attachment C.

PART 3 EXECUTION

3.01 PREPARATION

A. Protect adjacent surfaces which may be damaged by installation of signs.

B. Prepare substrates in accordance with sign manufacturer's instructions.

C. Remove scale, dirt, grease, and other contaminates from substrates.

3.02 INSTALLATION

A. Install signs in accordance with sign manufacturer's instructions.

B. Fasten signs securely in level, plumb, and true to plane positions.

C. Install metal traffic signs where **indicated on the Drawings**.

D. Lay underground warning tape approximately 6 inches below finish grade above service lines.

E. Apply voltage appliques on exposed medium voltage circuit raceways at maximum 50 foot on center.

3.03 ATTACHMENTS

A. Metal Safety Sign Schedule.

END OF SECTION

ATTACHMENT A

METAL SAFETY SIGN SCHEDULE

A. NONPOTABLE WATER: (2 total)
   1. Location: At impure water and nonpotable water hose valves in accordance with Typical Detail M276.
   2. Height: In accordance with Typical Detail.
   3. Size: In accordance with Typical Detail.
   4. Heading: DANGER
   5. Wording: DO NOT DRINK THIS WATER

B. REMOTELY CONTROLLED AUTOMATIC EQUIPMENT: (1 Total)
   1. Location: At equipment that starts automatically by remote control.
   2. Height: Standard
   3. Size: 17 inches wide by 11 inches high.
   4. Heading: DANGER
   5. Wording: THIS EQUIPMENT STARTS AUTOMATICALLY
      a. BY REMOTE CONTROL

C. EQUIPMENT TROUBLE: (1 Total)
   1. Location: Next to Driver Terminal Panel.
   2. Height: Standard
   3. Size: 17 inches wide by 11 inches high.
   4. Heading: EQUIPMENT TROUBLE
   5. Wording: For Equipment Trouble, Call 530-822-3264

END OF METAL SAFETY SIGN SCHEDULE

SECTION 11010

INSTALLATION OF OWNER SUPPLIED SEPTAGE RECEIVING EQUIPMENT

PART 1 GENERAL

PART 1.1 OVERALL SCOPE

A. The work of this section includes the installation of septage receiving equipment, supplied by the Owner in accordance with the information contained and documents referenced herein.

B. Scope:
   1. Owner Supplied equipment only includes the equipment specifically listed in the attached equipment proposal. All equipment indicated on contract documents shall be provided by the Contractor in accordance with the electrical specifications.
   2. Scope: The manufacturer's Scope of Supply and Approved Submittal are attached to these specifications.
   3. Schedule: Yuba City shall take delivery of the Equipment between May 15 and July 15, 2026 at the WWTP. Contractor shall off load equipment and coordinate delivery time with the City.

C. Contractor Responsible for a Complete and Operational System:
   1. All, labor, materials, equipment, appurtenances, and services of any kind, which are not listed in the attached proposal, but are required to provide a complete and operational system in conformance with the technical specifications provided shall be furnished by the Contractor. As a minimum, this shall include.
      a. Unloading, storing, and installing the equipment per the Manufacturer's recommendations.
      b. Inspecting all equipment for damage or missing items.
      c. Modifying and constructing foundations and supports for the equipment.
      d. Providing and installing equipment anchor bolts.
      e. Installation of all piping and supports.
      f. Installation of all electrical conduit, wire, instrumentation and supports.
      g. Installation of the Equipment Control Panel and Driver Interface Panel.
      h. Startup and testing of equipment. Contractor shall perform all other testing specified or indicated on the Drawings.
      i. Any other work identified in the technical specifications or this specification not included in the Manufacturer's scope of supply.
      j. Other work identified as "by City", "by Owner", "by others", or "by Contractor" in the attached scope of supply.
      k. All work required for a complete and operational system.

PART 1.2 SUMMARY

A. Section Includes:
   1. The City supplied Septage Receiving Equipment shall be in conformance with the referenced sections listed below accept where a specific exception was taken in the attached scope of supply. The Contractor shall install all

equipment in conformance with the following referenced sections and per the manufacturer's written instructions.

B. Related Sections
   1. 01756 Testing Training and Facility Start Up.

PART 2 PRODUCTS

PART 2.1 MANUFACTURERS

A. Owner Supplied Electrical Equipment: **Franklin Miller**

PART 3 EXECUTION

PART 3.1 INSTALLATION

A. Assemble and install products in accordance with manufacturer's instructions.
B. Install and test equipment.
C. Inspect all components for shipping damage and conformance to the specifications. Alert the Owner of any discrepancies.
D. Unload, uncrate, store, equipment until ready for installation.
E. Ensure readiness of the equipment before requesting start-up services. Non-readiness may incur additional charges from the Manufacturer that shall be the responsibility of the Contractor.
F. Perform all startup and testing of the equipment in conjunction with the equipment supplier.

PART 3.2 FIELD QUALITY CONTROL

A. Witnessing: All field testing shall be witnessed by the ENGINEER; provide advanced notice of field testing.

B. Inspection and Check-out: As specified in Sections 01756.

C. Equipment Test: Test equipment as specified in 01756.

D. Operational Testing: Perform as specified in Section 01756.

PART 3.3 MANUFACTURER'S FIELD SERVICES

A. Coordinate and assist manufacturer to inspect system before initial start-up and certify that system has been correctly installed and prepared for start-up as specified in this section.

B. Training: Assist equipment manufacturer in providing training.

END OF SECTION

Vendor Information

1. Vendor Quote Dated 5/03/2024 – 5 pages
2. Vendor Submittal Dated 8/13/2025 – 99 pages

Franklin Miller Inc.
60 Okner Parkway
Livingston, NJ 07039 USA

Tel 973-535-9200
Fax 973-535-6269
info@franklinmiller.com

Quote No: 64052

May 03, 2024

E4668

Yuba City
302 Burns Drive
Yuba City, CA 95991 USA
Phone: (530)822-7696

Your Local Representative:
JBI Water & Wastewater Eqt., Inc.
Attn: JJ Jeffries
Tel: 916-955-5500
email: jj@jbiwater.com

Salesperson:
Nicholas Ilaria, Regional Sales Manager
nilaria@franklinmiller.com

We are pleased to quote on the following:

Quantity		Description	Price	Totals
1		**TASKMASTER® GRINDER, Model TM851204TT as follows:** - Housing with built-in Tramp-Trap to collect heavy objects - D.I. Construction - Nom. 8" x 12" Cutting Chamber - Cutter Cartridge Technology: 7/16" Thick x 7 Tooth Cam Cutters, 4140 H.T. - 4" Ansi Flange Housing- 150# Bolt Pattern - Drop-In Design Housing For Fast & Easy Maintenance - 2" Hexagonal Shafting, 4140 H.T. - Manual Gate Valve for fast Tramp Removal - D. I. - 6" Dia. - Clean out Port - Top Mounted - Clean out Port - In discharge flange - Painted 2 Coats Heavy Epoxy Coating - Osha Blue - Weight: 1820 lbs.		
1	EA	**MOTOR AND DRIVE INCLUDING:** - 5HP TEFC C-Face Motor, 230/460V, 3PH, 60 HZ - Gear Reducer - Cycloidal, Vertical Down - Coupling: High Torque Jaw Style - Reducer and Adapter constructed of Iron and Steel		
1	EA	**4" Inlet Pipe Assemby** - 4" Piping - with flanges, 304 Stainless Steel - Support Stands - Stainless Steel - Flow Meter & Transmitter - Hard Rubber Liner, Hast C Electrodes, 4" 150# flanges - Plug Valve - 4"Flg Acry-Butadiene V-Type Pkg		
1	EA	**PH and CONDUCTIVITY Monitor Assy:**		
1	EA	**SPIRALIFT® SR30 Septage Receiving Station as follows:** **SPIRALIFT Model SR30 Septage Receiving and Screening including:** - Tank Enclosure, T304SS construction - 4" inlet flange constructed of heavy stainless steel - Hinged Access cover with interlock		

Franklin Miller Inc.
60 Okner Parkway
Livingston, NJ 07039 USA

Tel 973-535-9200
Fax 973-535-6269
info@franklinmiller.com

Quote No: 64052

May 03, 2024

Quantity		Description	Price	Totals
		Spiral Screen including: - Stainless Steel tank housing - Alloy Steel Shaftless Auger and Stainless outer flighting in Screen area - 27" Dia. Stainless Steel perforated screen basket. - Heavy-duty Nylon segmented bolt-on screen brushes attached to Auger. - Shaft-mounted Gear Reducer and 1 HP TEFC 3/60/230/460 Motor **Compaction Zone** *Enhances output quality through superior dewatering and compacting* - fitted with screen, backwash system and return drain located prior to outlet - Reduces odors - Reduces overall weight of screenings **Spray Wash System including:** - Screen washing zone to clear perforated screen - Spray Wash for tank washdown during shutdown cycle - Each line regulated by solenoid and ball valve - Design Flow: 70 gpm of potable water **Ultra-Sonic Level Sensor:** - Mounted in SR tank for high level detection. - 20' Max, Explosion Proof (FM Class 1 , Div 1 Group A,B,C,D) - 24VDC		
1	EA	**S270-SRH Septage Receiving Controller** ***With Hauler Station Interface*** - Provides control and integration of all system components - Card Reader - for Hauler authentication - Receipt Printer - HMI Interface - Allan Bradley PLC - Nema 4X Stainless Steel Enclosure - Local Hauler Station Panel - Nema 12 Steel Enclosure - Main Control Panel - Interior Mount Control Cabinet - IEC Starters, & Long Lasting LED Indicators - Provided with 50 Magnetic Cards		
1	EA	**HAULERLOGIC™ - Including:** **Multiuser Administration Software**		

Franklin Miller Inc.
60 Okner Parkway
Livingston, NJ 07039 USA

Tel 973-535-9200
Fax 973-535-6269
info@franklinmiller.com

Quote No: 64052

May 03, 2024

E4668

Quantity		Description	Price	Totals
		- Allows Customer Account Maintenance - Monitors Current and Past Hauler Activity - Provides Reports, Invoices and Statements - Enable/Disable Customer Accounts - Select Account Type - Prepay or Invoice - Set Rates - SQL Database Driven - Runs on Microsoft Workstation, Accessible from PC, MAC or Tablet *1 Year Telephone Support and Software Updates Included* *Remote support for installation is included.* *Use of this software is subject to the Haulerlogic License Agreement.* *Server Not Included.*		
2	DY	**Startup Services - By Rep** - Installation Inspection - Warranty Certification - O&M instructions If more than one day, Days are Consecutive. Normal Day Rate includes up to 8 hours,		
1	EA	**PN-ENG SEISMIC CALC**		

Total Lump Sum: $251,000.00

Subtotal:	$245,000.00
Freight:	$6,000.00
Grand Total:	$251,000.00

Prices are Valid Until Tuesday, July 2, 2024

Freight & Sales Tax (CA, NY, NJ, MD) if applicable, will be added to Invoice.

Thank you for this opportunity to be of service.

This quote is subject to Franklin Miller Standard Warranty, Terms and Conditions attached. Prices do not include applicable taxes.

FRANKLIN MILLER INC.

TERMS AND CONDITIONS
DATED 5/30/2019

1. ENTIRE AGREEMENT
Any order resulting from a Franklin Miller ("SELLER") proposal shall be bound by the following Terms and Conditions. Any exception to these Terms and Conditions by the BUYER shall not be binding on SELLER unless agreed to in writing upon the parties hereto, their successors and assigns.

2. LIMITED WARRANTY
SELLER warrants the goods sold hereunder to be free from defects in material and workmanship under normal use and service not arising from misuse, negligence or accident, or unauthorized modification of the equipment, in connection with the use, installation, and transportation of the goods by BUYER, its agents, servants, employees or by carriers. SELLER's obligations under this warranty are limited to remedying any deficiencies in the goods at such place or places in the United States of America as may be designated by SELLER. This warranty shall pertain to any part or parts of any goods to which BUYER has, within (12) months after date of shipment given written notice of a claimed defect to the SELLER. The BUYER shall be required to furnish SELLER with details of such defects and this warranty shall be effective as to such goods which upon SELLER's examination shall disclose to its satisfaction to have been defective and which at SELLER's option shall be repaired in place if required for a warranty repair. The BUYER at his expense shall make available in a suitable location for repair by SELLER or promptly thereafter be returned to SELLER, at BUYER's, or its nominee's expense. If upon examination it is determined by the SELLER that the repair or replacement does not fall within the warranty as set forth in this clause, an estimate for cost of repair will be provided to the BUYER. This warranty is expressly in lieu of all other warranties expressed or implied. In no event shall the SELLER be liable to the BUYER or to any other person for any loss or damage, direct or indirect, arising out of or caused by the use or operation of the goods, or for the loss of profits, business, or good will. Under no circumstance will SELLER be liable for any of the following: (1) third party claims against BUYER for losses or damages including liquidated damages: (2) loss of or damage to BUYER's records or data; or (3) economic consequential damages (including loss of profits or savings) or incidental damages even if SELLER is informed of their possibility. Excluded from the warranty herein are (a) defects in parts or components not manufactured directly by SELLER (SELLER will, however, pass on the remaining balance of the purchased equipment manufacturer's warranty) or not part of SELLER's standard design or are supplied pursuant to special BUYER's requirements; (b) certain parts which are subject to wear and tear from abrasive action or use thereof; and (c) any part that has been subjected to misuse. SELLER's liability is limited to furnishing or repairing at SELLER's option parts determined by SELLER to be defective. NO EXPRESS WARRANTIES AND NO IMPLIED WARRANTIES, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE, OR OTHERWISE (EXCEPT AS TO TITLE) OTHER THAN THOSE EXPRESSLY SET FORTH ABOVE WHICH ARE MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, SHALL APPLY TO PRODUCTS SOLD BY US. In the case of delayed start-up, SELLER shall provide recommended maintenance and long-term storage instructions, including documentation forms which BUYER must complete in order to maintain this warranty. BUYER's failure to adhere to said maintenance instructions for any piece of the equipment shall void this warranty. Further, no waiver, alteration, or modification of the foregoing conditions shall be valid unless made in writing and signed by an executive officer of SELLER. If the BUYER is in default of Clause 6 (Payment of Purchase Price) this warranty is null and void unless reinstated by SELLER.

3. FORCE MAJEURE
The obligation of SELLER hereunder shall be modified or excused for reasons of act of God, war, changes in law or regulations, strikes or lock-outs, fire, breakdown of machinery, or if for any other cause beyond SELLER's control, including supplier delay, the goods cannot be delivered, or their delivery becomes delayed in whole or in part. In the above instances, time for delivery shall be extended for the period of the delay caused, with the proviso, however, that either party may cancel in writing the undelivered portion of the order or contract if the delay exceeds six (6) months from the delivery date originally confirmed by SELLER. In no event shall SELLER become liable in the aforesaid instances to BUYER or any third party for consequential damages, liquidated damages, particularly described in ARTICLE 2 herein.

4. DELIVERY
(a) All quoted delivery dates and/or periods are approximate. Unless otherwise agreed, delivery of the goods is F.O.B. Factory or (EX WORKS - INCOTERMS 2000). Delivery to any common carrier shall constitute delivery to BUYER, and thereafter the risk of loss or damage to the goods shall be upon BUYER. Delays by BUYER, Owner, or the engineer of the BUYER or Owner in furnishing necessary technical information or documents, or delays caused by order modifications requiring additional production time, shall result in a corresponding postponement of the delivery date.

5. SHORTAGE OR DAMAGE OF DESTINATION SHIPMENTS
Any claims of shortage or damage on destination shipments must be made in writing within ten (10) days after delivery of the goods (as to which such claim is made) to SELLER or its nominees, but in no event shall the claim be later than within the time limit provided by the carrier or insurance company, otherwise such claim shall be deemed waived.

6. PAYMENT OF PURCHASE PRICE
(a) Time of payment is of the essence under this contract. Upon default by BUYER in any of the terms of this contract, or failure to comply with any of the conditions hereof, or upon seizure of the property under execution or other legal process, or if BUYER becomes bankrupt or insolvent, or any petition for reorganization or for a state court receivership is filed against BUYER, or if the BUYER makes any assignment for the benefit of his creditors or otherwise sells, encumbers or disposes of the merchandise, or if for any other reason the SELLER should deem itself insecure, the full amount of the purchase price then remaining unpaid shall at once become due and payable at the option of the SELLER. Then, at its option, SELLER may take possession of any goods theretofore sold to BUYER, in connection with which the full purchase price has not been paid, analogous to the terms and provisions set forth herein.

(b) TERMS OF PAYMENT - All orders are subject to credit approval by the SELLER. Payment terms are as stated in SELLER's quotation. Retainage if required by OWNER shall be no more than 5% of the purchase price. Retainage shall be released and paid in full no later than 120 days after satisfactory start up of the SELLER's equipment. All shipments, including partial shipments, will be billed a pro rata amount as of date shipped. If the account remains unpaid after sixty (60) days, interest at the rate of 1-1/2% per month (18% per annum) will be added to the outstanding balance computed from date of shipment. All costs of collection will be added to the outstanding balance including legal fees and court costs. Acceptance of partial payments on account does not constitute any change in the payment terms and conditions herein and is not to be considered to extend the due date for payment.

7. SECURITY INTEREST AND TITLE
In states and localities which are governed by the Uniform Commercial Code, this contract shall serve as the security agreement, reserving in SELLER a security interest until full payment of purchase price. The provisions of the Uniform Commercial Code regarding security interest shall have preference and apply if inconsistent with other terms of the conditions of sale herein. In states and localities where the Uniform Commercial Code does not apply, title to the merchandise shall remain in the SELLER or its assigns until full payment of the purchase price. BUYER agrees to execute forthwith any and all documents in such form as SELLER may require for filing or recording the security interest under the Uniform Commercial Code with the proper registers or offices, or for filing or recording the conditional sales contract.

8. VARIATIONS IN DUTIES AND TAXES & RATE OF EXCHANGE
The prices on the products specified are exclusive of all city, state or federal taxes. BUYER shall bear any increases, after the date of this contract, in or any new imposition of duties, levies or taxes relating to the product sold hereunder. Unless a Sales Tax Exemption Certificate is provided, SELLER will invoice for the New Jersey Sales Tax on all items sold in New Jersey. SELLER is not authorized to collect sales tax for any other jurisdiction.

9. MODIFICATIONS AND CANCELLATION
The parties may agree to modify project plans or specifications provided BUYER pays SELLER for engineering time, materials costs, and other expenses relating to the requested modification. An order, once placed with and accepted by SELLER can be canceled only with SELLER's consent and upon terms that will indemnify SELLER against loss.

FRANKLIN MILLER INC.

TERMS AND CONDITIONS
DATED 5/30/2019

10. STOP WORK ORDER OR DELAY:
If an engineering approval, release to manufacturer, shipment or work on any part of this contract is held or delayed by BUYER for greater than 120 days from the date of contract, SELLER is entitled to an increase in contract price to cover cost escalations caused by such delay.

11. MISCELLANEOUS PROVISIONS
(a) If for any reason a provision of the contract is legally invalid, then in such event the rest of the contract shall remain in full force and effect; (b) Any amendment to any contract or contracts shall require the consent in writing of both parties; and (c) The within terms shall govern in any instance where they conflict with the provisions of any forms used by BUYER.

12. BUYER'S RESPONSIBILITY AS TO MAINTENANCE
BUYER shall use and shall require its employees and agents to use all safety devices and guard safe operating procedures and shall maintain the same in proper working order. Further, BUYER shall obey and have its employees, subcontractors and agents obey safety instructions given by SELLER. BUYER agrees to indemnify and save SELLER harmless from any liability or obligation with respect to any personal injuries or property damage directly or indirectly connected with the operation of the equipment. BUYER agrees to notify SELLER promptly and in any event not less than ten (10) days after notice or knowledge of any accident or malfunction involving SELLER's equipment which has caused personal injury or property damages and to cooperate fully with SELLER in investigating and determining the causes of such accident.

13. REPAIR OBLIGATION FOR CONTAMINATED EQUIPMENT
Nothing herein shall be deemed to require SELLER to accept equipment for repair, modification or alteration unless the units have first been cleaned and decontaminated.

14. NOISE LEVEL REQUIREMENTS
Although SELLER's machines have been designed to satisfy the general requirements of BUYER's specifications, SELLER cannot represent or certify that they satisfy the noise level requirements for a specific application, location or operation since these circumstances are unknown to SELLER and are beyond SELLER's control and because of the general nature of size reduction equipment. If required to test for this noise level requirement, testing will be with no product fed to the machine and FMI will provide a quotation for each test to be performed. If corrections are required after completion of the tests, the costs for these modifications will be negotiated.

15. OSHA CONDITIONS
Although SELLER's machines and guards have been designed to satisfy the general intentions of OSHA requirements, SELLER cannot present or certify that they satisfy the requirements of OSHA for a specific application, location, or operation since these circumstances are unknown to SELLER and are beyond SELLER's control. The SELLER shall not be liable for any costs of compliance or other costs or fines resulting from non-compliance with any OSHA requirement.

16. DOCUMENTS REQUIRED
Prices quoted include the required number of manuals set forth in the specifications. If not stated, SELLER shall provide its standard Operations and Maintenance Manuals. Any additional manuals are not included in the quoted price and shall be charged to BUYER.

17. PATENT AND LICENSE & LIABILITY INDEMNIFICATION
BUYER agrees to indemnify SELLER, its agents, successors and assigns against any loss, damage and liability, including costs and expenses arising out of any claim against SELLER for actual or alleged infringement on any patent, copyright or trademark arising out of the use or sale by BUYER, its agents, servants, employees or customers of the product provided by SELLER, as used by BUYER, in conjunction with any other equipment, product or system. BUYER agrees to indemnify SELLER, its agents, successors and assigns against any loss, damage and liability, including costs and expenses arising out of any claim against SELLER for actual or "Bodily injury" or "property damage" arising from the actual, alleged or threatened discharge, dispersal, release or escape of pollutants from any source whatsoever. "Pollutants" means any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

18. TRADEMARKS AND COPYRIGHTS
BUYER acknowledges that it has no right, title or interest in the trademarks or copyrights in the products, and BUYER covenants that it will take no action to register or otherwise interfere with such rights.

19. INDEPENDENT CONTRACTORS
SELLER and BUYER are independent contractors. BUYER is not authorized to and shall not make any representations on behalf of which are binding upon SELLER.

20. NON-ASSIGNMENT BY BUYER
Contract or contracts may not be assigned by the BUYER without prior written consent of the SELLER.

21. APPLICABLE LAW
Any contracts herein are governed by the applicable laws of the State of New Jersey.

22. BUYER APPROVALS
If BUYER approval is required of the SELLER's submittals, specifications and/or operating instructions submissions, upon receipt of such approval, the approved documents shall supersede the BUYER's description of requirements on this purchase order and the description on the SELLER's original proposal. SELLER will provide equipment, spares and data in accordance with the approved submittals.

23. STANDARD PRODUCTS
All of SELLER's machines are built to best commercial practices and as part of its standard product line, which may be modified to meet BUYER's specifications. However, no manufacturing drawings or procedures, formal inspection plans, schedules, progress reports, welding procedures, quality control plans, or sub-supplier information, will be supplied. Erection, safety, operation and maintenance instructions are contained in SELLER's manual to be supplied with the machines.

24. SIZES AND DIMENSIONS
The samples, measurements, dimensions and weights contained in the SELLER's catalogs, sales manuals, photographs and drawings constitute only an approximate guide. The SELLER reserves the right to make any changes which the SELLER, in its absolute discretion, considers necessary.

25. ARBITRATION
Actions by the SELLER for nonpayment by the BUYER of the undisputed purchase price of goods sold by the SELLER, or for redress for other undisputed breaches by the purchaser of the contract of sale, may be brought by the SELLER before any judicial court of competent jurisdiction without need for prior arbitration. All other disputes, controversies, or claims arising out of or relating to this agreement or the performance or breach thereof shall be settled by arbitration by an arbitrator mutually agreeable to be held in the County of Essex, State of New Jersey in accordance with the rules and procedure then obtaining of the American Arbitration Association.

26. FORUM.
ALL JUDICIAL PROCEEDING AND/OR ARBITRATION BROUGHT AGAINST BORROWER ARISING OUT OF OR RELATING TO THIS NOTE MAY BE BROUGHT IN ANY STATE OR FEDERAL COURT OF COMPETENT JURISDICTION IN THE STATE OF NEW JERSEY, AND BY EXECUTION AND DELIVERY OF THIS AGREEMENT BUYER ACCEPTS FOR ITSELF AND IN CONNECTION WITH ITS PROPERTIES, GENERALLY AND UNCONDITIONALLY, THE JURISDICTION OF THE AFORESAID COURTS AND FORUM FOR ARBITRATION AND WAIVES ANY DEFENSE OF FORUM NON CONVENIENS AND IRREVOCABLY AGREES TO BE BOUND BY ANY JUDGMENT RENDERED THEREBY IN CONNECTION WITH THIS AGREEMENT. BUYER hereby agrees that service of process sufficient for personal jurisdiction in any action against BUYER in the State of New Jersey may be made by registered or certified mail, return receipt requested, to BUYER at its address as provided by BUYER. BUYER hereby acknowledges that such service shall be effective and binding in every respect.

Franklin Miller Since 1918

SUBMITTAL

SPIRALIFT SR

Model: SR30

SN: 12980,12981

GRINDERS | SHREDDERS | CRUSHERS | SCREENS

Experience the Difference

Submittal Data by **Franklin Miller,Inc.**

Prepared For:
K.W. EMERSON
413 W. Saint Charles Street
SAN ANDREAS CA 95249

Franklin Miller is pleased to provide the enclosed submittal data for your review and Approval.

Date	08/13/2025	**Pages**	142
Revision	00	**Prepared By**	Ashley Arias
Copies		**Action**	Approval
Purchase Order	22-24-05		
Installation	Yuba City Septage Station		

Qty	Model		Serial Number	Weight (Lbs.)
1	SR30		12981,12982	

Review & Approval Required:		
Signed by :	✓	**Check One:**
Title:		**Approved without change**
Organization:		**Approved as noted**
Date:		**Revise and resubmit**

Once approved with signature and released for production, this submittal document will be considered a legal document and will override any other documents; unless otherwise specified in writing in this document. Franklin Miller will only be responsible for items mentioned herein. If any modifications are required, Franklin Miller will resubmit this document for final approval (without charge).

Please send back your approval and confirm / provide the following:

- Respond to All Note Written On Page 19
- Confirm voltage requirements (230V) or (460V)
- Specify whether OM Manual should be digital PDFs or hard copies.
- Confirm that seismic calcs are for anchors only

The returned data package may be transmitted via fax, mail, or email. **This machine can not be released for production without the above mentioned information and APPROVAL signature.**

Franklin Miller Inc.
60 Okner Parkway ● Livingston, N.J. 07039 ● Phone: (973)535-9200 ● Fax: (973)535-6269

CONFIDENTIALITY NOTICE

This submittal embodies proprietary information of FRANKLIN MILLER INC. Any reproduction or transmittal to any party outside the recipient's organization (except where the recipient has been given the express right by written agreement) is expressly prohibited. Use and sale rights regarding the same are expressly reserved. It is submitted under a confidential relationship for a specific purpose, and the recipient agrees by accepting this submittal not to supply or disclose any information regarding it to any outside party. All rights hereto are expressly reserved by FRANKLIN MILLER INC. Livingston, New Jersey.

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1 Unit Specification

UNIT SPECIFICATIONS

General Information

Order #:	**108618**
Serial #:	12980,12981
Customer:	Yuba City
Purchase Order #:	270023
Machine Installation:	Water Reclamation Plant
Machine Model:	**SR30**
Quantity:	**1**

Motor

MANUFACTURER	POWER	ENCLOSURE
TECO	**1HP**	**TEFC**
VOLTS	PHASE	HERTZ
230/460	**3 phase**	**60**

Reducer

MANUFACTURER	MODEL	RATIO
NORD	**SK5382**	

Enclosure

MODEL	CONTROLLER	
S270-SR		
VOLTS	PHASE	HERTZ
230/460	**3 phase**	**60**

Franklin Miller Inc.
60 Okner Parkway
Livingston, NJ 07039 USA

Scope of Supply

Order No. 111304

Sold To:

Yuba City
302 Burns Drive
Yuba City, CA 95991 USA
Phone: (530)822-7696
Fax: (530)822-4773

Rep:

JBI Water & Wastewater Eqt., Inc.
3386 Tartan Trail
El Dorado Hills, CA 95762 USA

Organization ID	*P.O. #*	*Salesperson*	*Serial Number*	*Order Date*
YUB001	PO 270023	Jacob Galanty	12981, 12982	7/9/2025

Line No.	Quantity	Units	Description
1	1.0	EA	**TASKMASTER® GRINDER, Model TM851204TT as follows:** - Housing with built-in Tramp-Trap to collect heavy objects - D.I. Construction - Nom. 8" x 12" Cutting Chamber - Cutter Cartridge Technology: 7/16" Thick x 7 Tooth Cam Cutters, 4140 H.T. - 4" Ansi Flange Housing- 150# Bolt Pattern - Drop-In Design Housing For Fast & Easy Maintenance - 2" Hexagonal Shafting, 4140 H.T. - Manual Gate Valve for fast Tramp Removal - D. I. - 6" Dia. - Clean out Port - Top Mounted - Clean out Port - In discharge flange - Painted 2 Coats Heavy Epoxy Coating - Osha Blue - Weight: 1820 lbs.
2	1.0	EA	**MOTOR AND DRIVE INCLUDING:** - 5HP TEFC C-Face Motor, 230/460V, 3PH, 60 HZ - Gear Reducer - Cycloidal, Vertical Down - Coupling: High Torque Jaw Style - Reducer and Adapter constructed of Iron and Steel
3	1.0	EA	**4" Inlet Pipe Assemby** - 4" Piping - with flanges, 304 Stainless Steel - Support Stands - Stainless Steel - Flow Meter & Transmitter - Hard Rubber Liner, Hast C Electrodes, 4" 150# flanges - Plug Valve - 4"Flg Acry-Butadiene V-Type Pkg
4	1.0	EA	**PH and CONDUCTIVITY Monitor Assy:**
5	1.0	EA	**SPIRALIFT® SR30 Septage Receiving Station as follows:**

Sold To:

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Fax: (530)822-4773

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Organization ID	*P.O. #*	*Salesperson*	*Serial Number*	*Order Date*
YUB001	PO 270023	Jacob Galanty	12981, 12982	7/9/2025

Line No.	Quantity	Units	Description

SPIRALIFT Model SR30 Septage Receiving and Screening including:
- Tank Enclosure, T304SS construction
- 4" inlet flange constructed of heavy stainless steel
- Hinged Access cover with interlock

Spiral Screen including:
- Stainless Steel tank housing
- Alloy Steel Shaftless Auger and Stainless outer flighting in Screen area
- 27" Dia. Stainless Steel perforated screen basket.
- Heavy-duty Nylon segmented bolt-on screen brushes attached to Auger.
- Shaft-mounted Gear Reducer and 1 HP TEFC 3/60/230/460 Motor

Compaction Zone
Enhances output quality through superior dewatering and compacting

- fitted with screen, backwash system and return drain located prior to outlet
- Reduces odors
- Reduces overall weight of screenings

Spray Wash System including:
- Screen washing zone to clear perforated screen
- Spray Wash for tank washdown during shutdown cycle
- Each line regulated by solenoid and ball valve
- Design Flow: 70 gpm of potable water

Ultra-Sonic Level Sensor:
- Mounted in SR tank for high level detection.
- 20' Max, Explosion Proof (FM Class 1 , Div 1 Group A,B,C,D)
- 24VDC

6 **1.0** **EA** **S270-SRH Septage Receiving Controller**

Sold To:

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Phone: (530)822-7696
Fax: (530)822-4773

Rep:

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3386 Tartan Trail
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Organization ID	*P.O. #*	*Salesperson*	*Serial Number*	*Order Date*
YUB001	PO 270023	Jacob Galanty	12981, 12982	7/9/2025

Line No.	Quantity	Units	Description
			With Hauler Station Interface - Provides control and integration of all system components - Card Reader - for Hauler authentication - Receipt Printer - HMI Interface - Allan Bradley PLC - Nema 4X Stainless Steel Enclosure - Local Hauler Station Panel - Nema 12 Steel Enclosure - Main Control Panel - Interior Mount Control Cabinet - IEC Starters, & Long Lasting LED Indicators - Provided with 50 Magnetic Cards
7	1.0	EA	**HAULERLOGIC™ - Including:** Multiuser Administration Software - Allows Customer Account Maintenance - Monitors Current and Past Hauler Activity - Provides Reports, Invoices and Statements - Enable/Disable Customer Accounts - Select Account Type - Prepay or Invoice - Set Rates - SQL Database Driven - Runs on Microsoft Workstation, Accessible from PC, MAC or Tablet 1 Year Telephone Support and Software Updates Included Remote support for installation is included. Use of this software is subject to the Haulerlogic License Agreement. Server Not Included.
8	2.0	DY	**Startup Services - By Rep** - Installation Inspection - Warranty Certification - O&M instructions If more than one day, Days are Consecutive. Normal Day Rate includes up to 8 hours,

Franklin Miller Inc.
60 Okner Parkway
Livingston, NJ 07039 USA

Scope of Supply

Order No. 111304

Sold To:

Yuba City
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Phone: (530)822-7696
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JBI Water & Wastewater Eqt., Inc.
3386 Tartan Trail
El Dorado Hills, CA 95762 USA

Organization ID	*P.O. #*	*Salesperson*	*Serial Number*	*Order Date*
YUB001	PO 270023	Jacob Galanty	12981, 12982	7/9/2025

Line No.	Quantity	Units	Description
9	1.0	EA	PN-ENG SEISMIC CALC

2

Paint Specification

PAINTING SPECIFICATIONS
(Franklin Miller Fabricated Parts)

All stainless steel parts, if used, will not be painted.

All steel surfaces shall be primed the same day as cleaned.

All steel parts which are exposed will be painted to the following procedures.

SURFACE PREPARATION
Surface preparation for steel will be defined by the Steel Structures Painting Council (SSPC) and is as follows:

SSPC-10-NEAR WHITE BLAST CLEANING

Near-white blast cleaning is a method of preparing metal surfaces for painting or coating by removing nearly all mill scale, rust scale, paint or foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels. A near-white blast cleaned surface finish is defined as one in which all oil, grease, dirt, mill scale, rust corrosion products, oxides, paint or other foreign matter have been completely removed from the surface except for very light shadows, very slight streaks or slight discolorations caused by rust stain, mill scale oxides, or slight, tight residues of paint or coating that may remain. At least 95% of each square inch of surface area shall be free of all visible residues, and the remainder shall be limited to the light discoloration mentioned above.

COATING

DESCRIPTION: Polyamide Epoxy

TYPICAL USE: Coating structural steel, machinery and equipment.

COLOR: Franklin Miller Blue

FINISH: Satin

PRIMER: One Coat

TOP: One Coat

DRY FILM THICKNESS: (As recommended by manufacturer): 3 to 5 mil per coat.

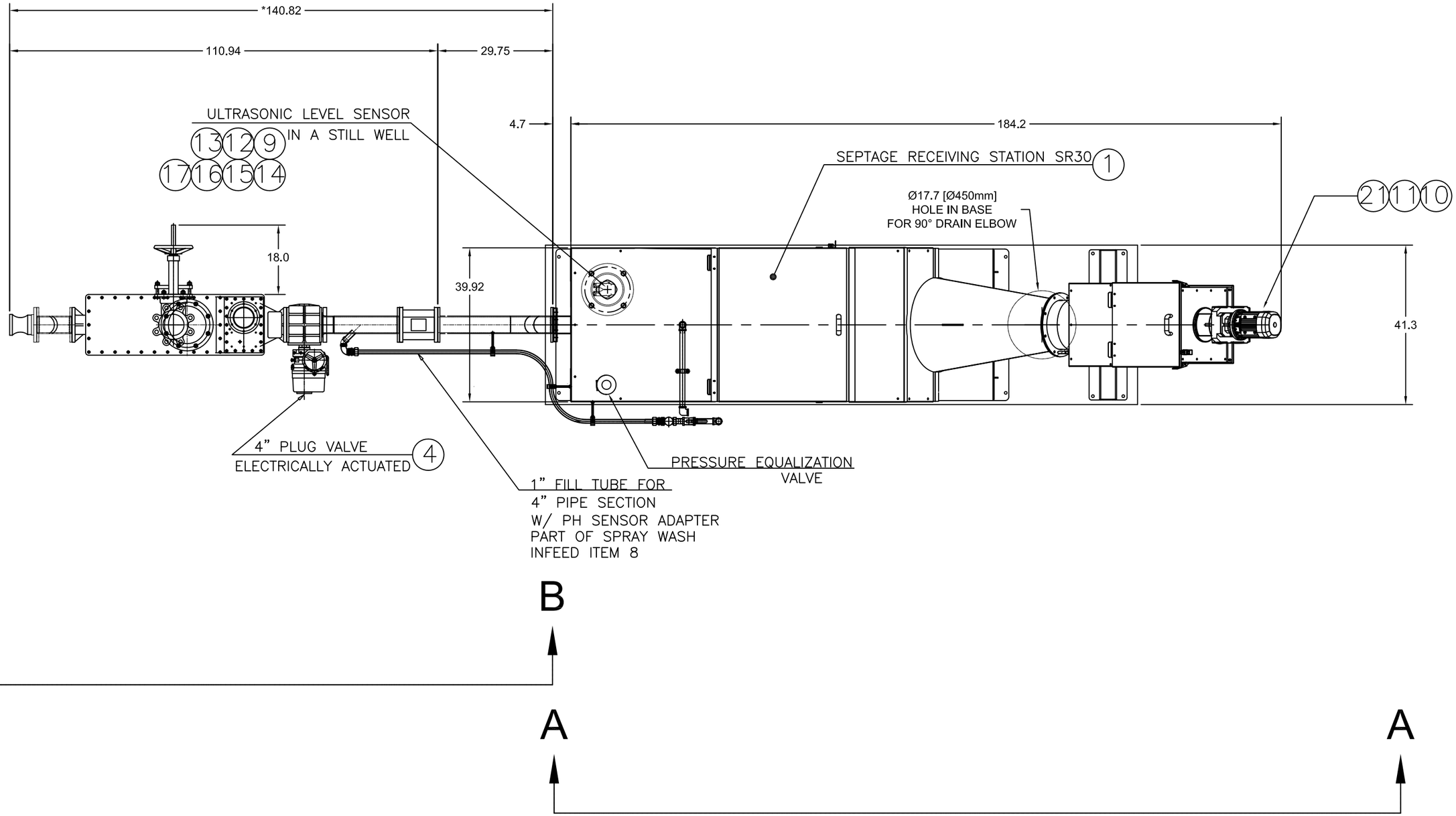
3 Warranty

FRANKLIN MILLER INC.
LIMITED WARRANTY

DOMESTIC

SELLER warrants the goods sold hereunder to be free from defects in material and workmanship under normal use and service not arising from misuse, negligence or accident, or unauthorized modification of the equipment, in connection with the use, installation, and transportation of the goods by BUYER, its agents, servants, employees or by carriers. SELLER's obligations under this warranty are limited to remedying any deficiencies in the goods at such place or places in the United States of America as may be designated by SELLER. This warranty shall pertain to any part or parts of any goods to which BUYER has, within (12) months after date of shipment, given written notice of a claimed defect to the SELLER. The BUYER shall be required to furnish SELLER with details of such defects and this warranty shall be effective as to such goods which upon SELLER's examination shall disclose to its satisfaction to have been defective and which at SELLER's option shall be repaired in place if required for a warranty repair. The BUYER at his expense shall make available in a suitable location for repair by SELLER or promptly thereafter be returned to SELLER, at BUYER's, or its nominees expense. If upon examination it is determined by the SELLER that the repair or replacement does not fall within the Warranty as set forth in this clause, an estimate for cost of repair will be provided to the BUYER. This warranty is expressly in lieu of all other warranties expressed or implied. In no event shall the SELLER be liable to the BUYER or to any other person for any loss or damage, direct or indirect, arising out of or caused by the use or operation of the goods, or for the loss of profits, business, or good will. Under no circumstance will SELLER be liable for any of the following: (1) third party claims against BUYER for losses or damages including liquidated damages: (2) loss of or damage to BUYER's records or data; or (3) economic consequential damages (including loss of profits or savings) or incidental damages even if SELLER is informed of their possibility. Excluded from the warranty herein are (a) defects in parts or components not manufactured directly by SELLER; Franklin Miller will, however, pass on the remaining balance of the purchased equipment manufacturer's warranty; (b) or not part of SELLER's standard design or are supplied pursuant to special BUYER's requirements; (c) certain parts which are subject to wear and tear from abrasive action or use thereof; and (d) any part that has been subjected to misuse. SELLER's liability is limited to furnishing or repairing at SELLER's option parts determined by SELLER to be defective. No express warranties and no implied warranties, whether of merchantability or fitness for any particular use, or otherwise (except as to title), other than those expressly set forth above which are made expressly in lieu of all other warranties, shall apply to products sold by us, and no waiver, alteration, or modification of the foregoing conditions shall be valid unless made in writing and signed by an executive officer of our corporation. If the buyer is in default of Clause 6 (Payment of Purchase Price) this warranty is null and void unless reinstated by SELLER.

4 Drawings



REV NO.	DESCRIPTION	DWN	ECO NO.	DATE
–	–	–		–

SHT 1 OF 4

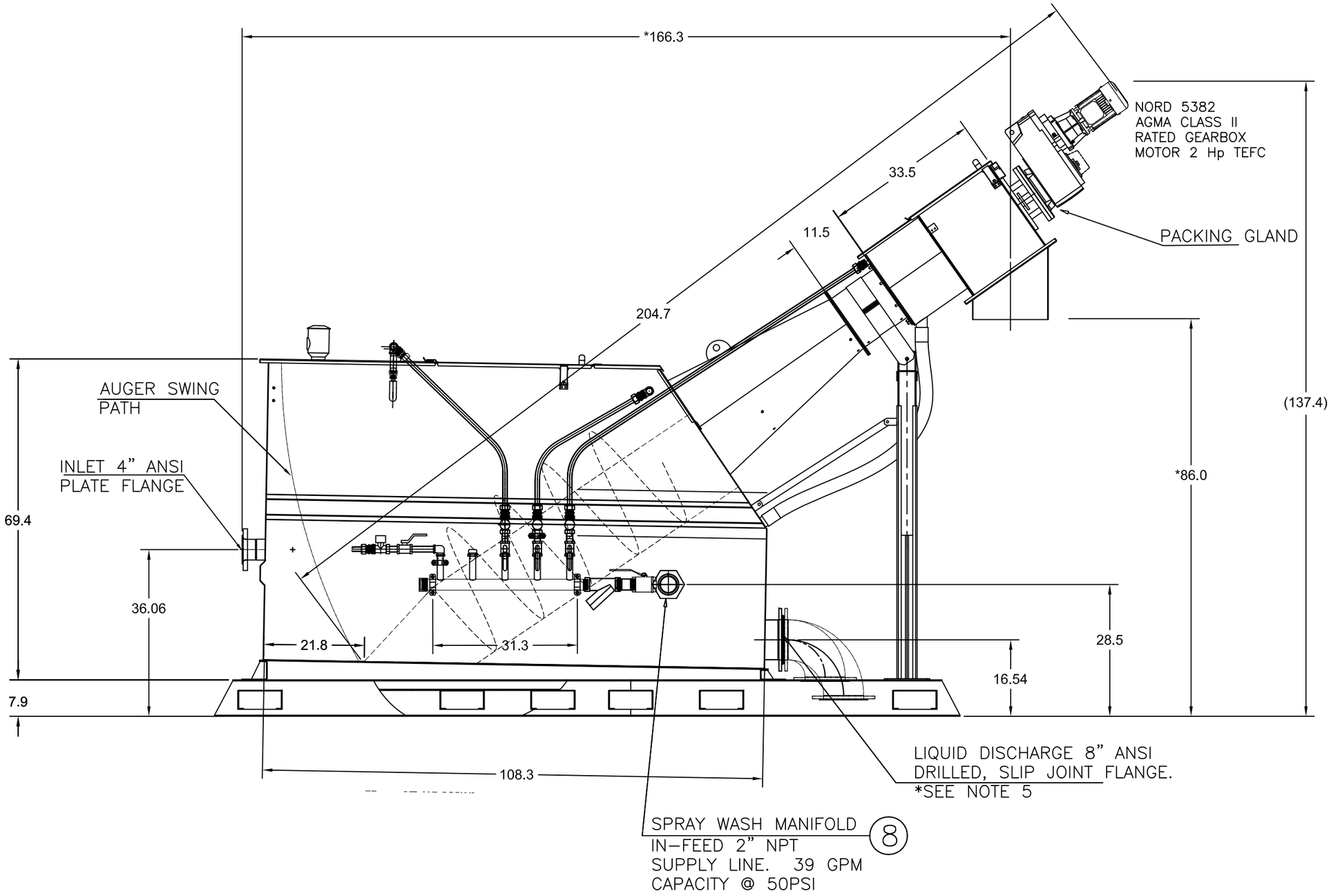
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LIVINGSTON, NEW JERSEY.

–	MAT'L	
LTR P/N	MATERIAL	WEIGHT#
THIRD ANGLE PROJECTION		DIMENSIONS INCH [mm]

Franklin Miller INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

SR30 – TM851204T

SCALE	DWN	DATE	CKD	DATE	DWG NO.	REV
–	GWC	07/23/25	.	.	12981SR30	–



SHT 2 OF 4

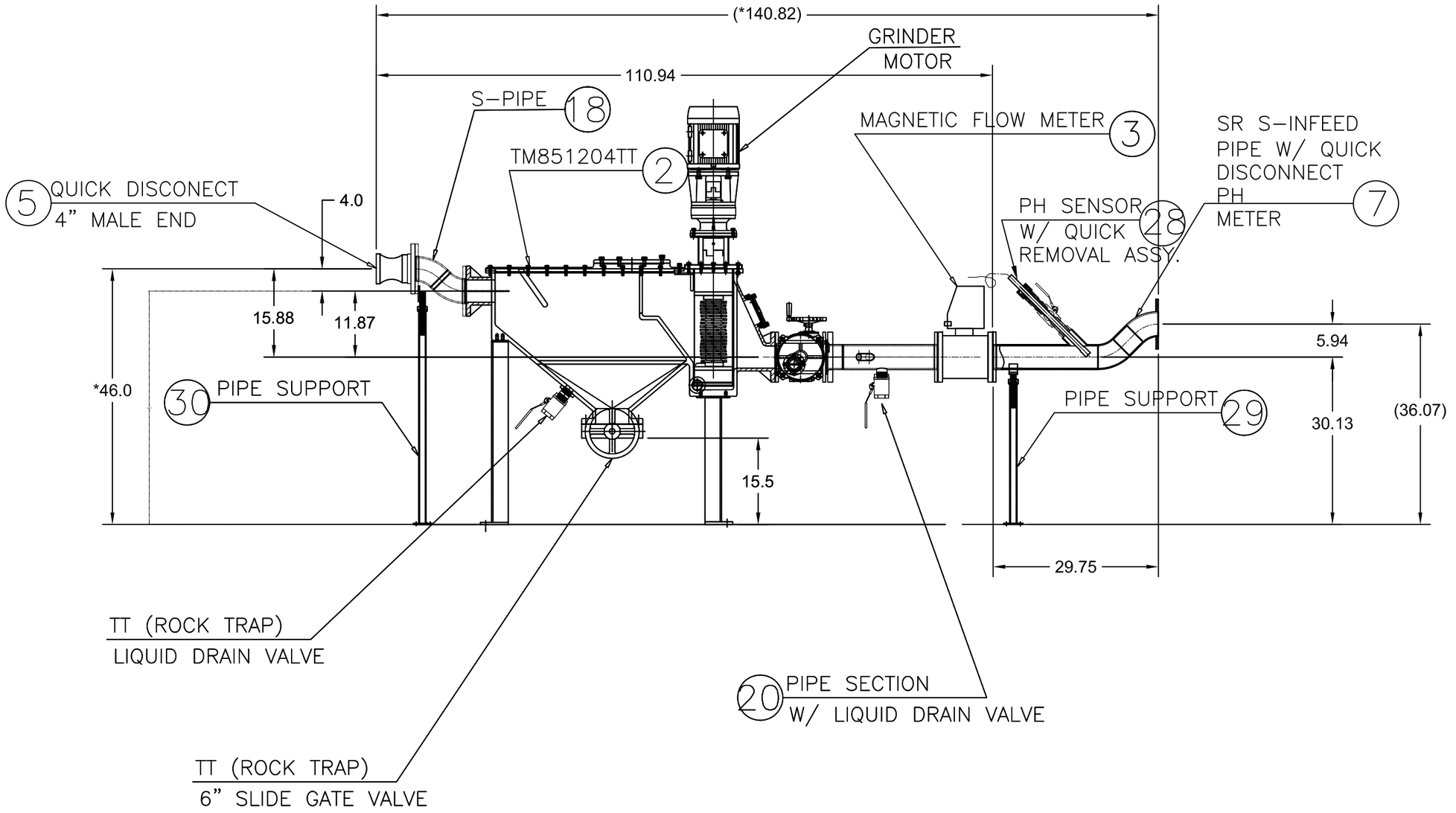
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LIVINGSTON, NEW JERSEY.

–	MAT'L	
LTR P/N	MATERIAL	WEIGHT#
THIRD ANGLE PROJECTION		DIMENSIONS INCH [mm]

Franklin Miller INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

SR30 – TM851204TT VIEW A–A

SCALE	DWN	DATE	CKD	DATE	DWG NO.	REV
–	GWC	07/23/25	.	.	12981SR30	–



SHT 3 OF 4

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LTR	P/N	MATERIAL	WEIGHT#
	–	MAT'L	

THIRD ANGLE PROJECTION | DIMENSIONS INCH [mm]

Franklin Miller INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

SR30 – TM851204TT VIEW B–B

SCALE	DWN	DATE	CKD	DATE	DWG NO.	REV
–	GWC	07/23/25	·	·	12981SR30	–

NOTES:

1. DIMENSIONS MARKED WITH "*" MUST BE CONFIRMED.
2. AREA IS RATED AS GENERAL AREA. THE SOLENOID VALVES WILL BE RATED AS CL 1, DIV 1 GROUPS C & D. ULTRASONIC LEVEL SENSOR WILL BE RATED CL 1, DIV 1, GROUPS B,C,D. ELECTRIC MOTORS ARE TEFC, CSA RATED FOR CLASS 1, DIV 2, GROUPS C & D. THE PLUG VALVE & PH SENSOR & TRANSMITTER IS RATED AS GENERAL AREA. THE FLOW METER IS RATED FOR CLASS 1, DIV 2, GROUPS C & D.
3. THE ONLY ACCEPTABLE PRESSURIZED DISCHARGE (BLOW OFF) SEQUENCE. HAULER TO UNLOAD 2/3 OF THE LOAD UNDER GRAVITY THEN FOR THE LAST 1/3 LOAD HE CAN PRESSURIZE.. ABSOLUTELY UNDER NO CIRCUMSTANCE CAN THE HAULER BEGIN PRESSURIZATION BEFORE HE IS AUTHORIZED TO DUMP AND THE PLUG VALVE IS FULLY OPEN.. IT IS IMPERATIVE TO FOLLOW THIS PROCEDURE AS PRESSURIZING TO EARLY CAN LEAD TO SURGES BLOWING DEBRIS INTO THE GRINDER AND DAMAGING THE CUTTERS. PLUS BLOWING THE LIQUID OUT OF THE MAG-METER PIPE LEADING TO ERRONEOUS FLOW VOLUMES / BILLING COMPLAINTS.
4. IT IS RECOMMENDED THAT A HOSE THAT CAN WASH DEBRIS INTO THE DRAINS BE ADDED ALONG WITH SLOPED GRADING UNDER THE ROCK TRAP SLIDE GATE AND UNDER THE IN-FEED PIPE QUICK DISCONNECT.
5. CUSTOMER TO CONFIRM THE TYPE OF ELBOW THEY ARE SUPPLYING LONG OR SHORT RADIUS ELBOW, FABRICATED OR CAST FOR THE 8" LIQUID WASTE DRAIN. PLEASE SUPPLY A DRAWING OF THE ELBOW.
6. SEISMIC CALCULATIONS CAN ONLY BE STARTED AFTER THE LAYOUT CONFIGURATION IS APPROVED.

BILL OF MATERIAL

ITEM	QTY	DESCRIPTION	
1	1	SR STATION SR30	12981SR30
2	1	TRAMP TRAP TT851204, 304 SS W/ TASKMASTER TM8512, 5HP GRINDER	12981TM851204TT
3	1	MAGNETIC FLOW METER, 4" & TRANSMITTER	MM00584B Rev 1
4	1	PLUG VALVE, 4"– STD, 120V 1/4 TURN ACTUATOR.	MM00466A Rev 1
5	1	4" QUICK CONNECT HOSE ADAPTER TO 4" 150# FLANGE	MM00450M
6	7	GASKET, 4", 1/8" NEOPRENE	GK00030
7	1	PIPE SECTION, UPTURNED, 304 SS	MM00450Y
8	1	SPRAY WASH DISTRIBUTION SYSTEM W/ PIPE FILL	MM00455AE
9	1	ULTRASONIC TRADUCER, CL 1, DIV 1, GROUPS B,C,D	EL00132FLW
10	1	Motor 2HP 1800 145TC 3/60/230/460, TEFC, C–Face.	ME00645
11	4	HEX HD. CAP SCREW 3/8–16 x 7/8", 18–8 SS	HC061614S
12	1	BULK HEAD FIT. (MTG. FLNG, 2" NPT) McMSTR3766K14	MM00482
13	1	FLANGE 8" SOCKET WELD, PVC (FOR STILL WELL FOR ULTRASONIC)	MM00662
14	1	PIPE, 8" x 5', SCHD 40, PVC (FOR STILL WELL FOR ULTRASONIC)	MM00663
15	1	PVC CEMENT	–
16	4	HEX HD BOLT, 3/4–10 x 2, 18–8 SS	HC121032S
17	4	NUT, 3/4–10, 18–8 SS	HN1210S
18	1	4" PIPE, TT INFEED SECTION, 304L SS, 150# FLANGES	MM00450V
19	1	PVC PRIMER	–
20	1	PIPE, 4" x 20", W/ 1" NPT FILL PORT & 1–1/2" DRAIN VALVE, 304L SS, 150# FLANGES	MM00450X
21	4	LOCK WASHER, 3/8", 18–8 SS	LW06S
22	–	–	–
23	48	BOLT, HH, 5/8–11 x 2–1/2", 304 SS	HC101140S
24	4	BOLT, HH, 5/8–11x1–1/4", 304 SS	HC101120S
25	48	NUT, HH 5/8–11, 304 SS	HN1011S
26	4	BOLT, HH, 5/8–11x1–3/4", 304 SS	HC101128S
27	1	PH–BUFFER SOL, 3 PACK, 4,7,10 PH SOL.	PH BUFFER 4–7–10
28	1	PH SENSOR WITH QUICK REMOVAL ASSY	EL00240B
29	1	SUPPORT, PIPE, SS	MM00458C
30	1	SUPPORT, PIPE, SS	MM00458G
31	–	–	–
32	1	GAS SPRING ASSY	MM01060
33	–	–	–
34	–	–	–
301	1	CONTROLER	EC12981
910	2	O&M MANUAL	OM12981

SHT 4 OF 4

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LTR	P/N	MATERIAL	WEIGHT#
–		MAT'L	

THIRD ANGLE PROJECTION | DIMENSIONS INCH [mm]

FRANKLIN MILLER INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

SR30 – TM851204T

SCALE	DWN	DATE	CKD	DATE	DWG NO.	REV
–	GWC	07/23/25	.	.	12981SR30	–

SN 12981, 12982 Notes

1. Dimensions marked with "*" must be confirmed.

2. Area is rated as general area. The solenoid valves will be rated as Cl 1, Div 1 Groups C & D. Ultrasonic level sensor will be rated Cl 1, Div 1, Groups B, C, D. Electric motors are TEFC, CSA rated for Class 1, Div 2, Groups C & D. The plug valve and pH sensor and transmitter is rated as general area. The flow meter is rated for Class 1, Div 2, Groups C & D.

3. The only acceptable pressurized discharge (blow off) sequence: hauler to unload 2/3 of the load under gravity then for the last 1/3 load he can pressurize. Absolutely under no circumstance can the hauler begin pressurization before he is authorized to dump and the plug valve is fully open. It is imperative to follow this procedure as pressurizing too early can lead to surges blowing debris into the grinder and damaging the cutters, plus blowing the liquid out of the mag-meter pipe leading to erroneous flow volumes/billing complaints.

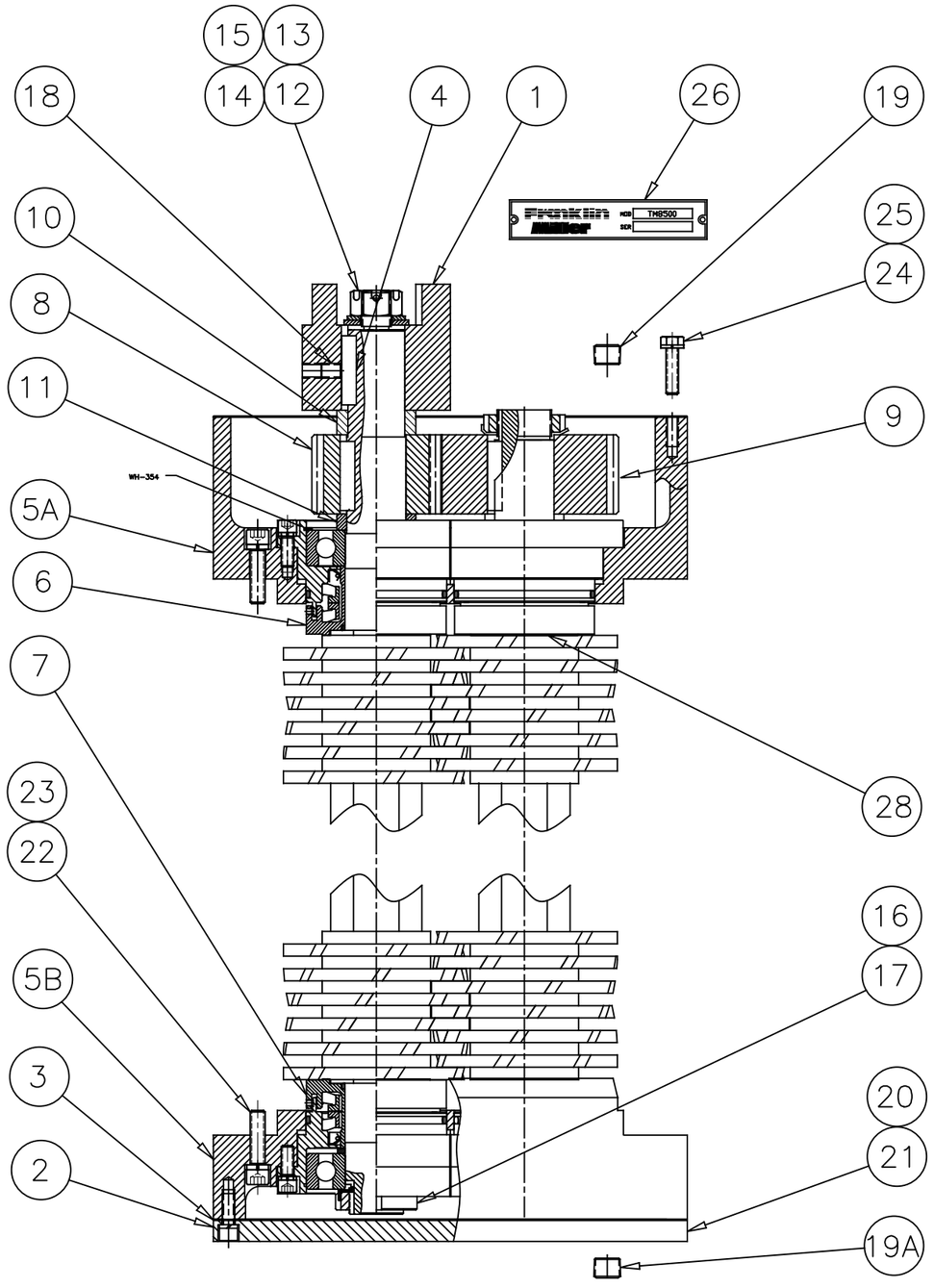
4. It is recommended that a hose that can wash debris into the drains be added along with sloped grating under the rock trap slide gate and under the in-feed pipe quick disconnect.

5. Customer to confirm the type of elbow they are supplying — long or short radius elbow, fabricated or cast — for the 8" liquid waste drain. Please supply a drawing of the elbow.

6. Seismic calculations can only be started after the layout configuration is approved.

PARTS LIST			FMI PART/#			FMI PART/#		
ITEM	QTY	DESCRIPTION	TM850000	MATERIAL	WEIGHT	TM850000C	MATERIAL	WEIGHT
1	1	COUPLING HALF	FM00015AU	1018 C.S.	5.5 LBS	FM00015AU	1018 C.S.	5.5 LBS
2	1	COVER, BOTTOM	TM8510B	D.I. 65–45–12	13.5 LBS	TM8510C	316LSS	9 LBS
3	2	GASKET	TM8512A	BUNA	–	TM8512A	BUNA	–
4	3	KEY, 3/8 SQ x 1 3/4	KS0628	1090 C.S.	.125 LBS	KS0628	1090 C.S.	.125 LBS
5A	1	HOUSING, TOP	TM8546M	D.I. 65–45–12	39 LBS	TM85010	316LSS	41 LBS
5B	1	HOUSING, BOTTOM	TM85646M	D.I. 65–45–12	30 LBS	TM85011	316LSS	31 LBS
6	2	BEARING/SEAL CARTRIDGE, FIXED	TM85760 REV #5	SEE DETAIL	6 LBS	TM85760 REV #5	SEE DETAIL	6 LBS
7	2	BEARING/SEAL CARTRIDGE, EXPANSION	TM85990 REV #5	SEE DETAIL	5.9 LBS	TM85990 REV #5	SEE DETAIL	5.9 LBS
8	1	PINION GEAR, 18T	TM85125	4140 ALLOY STEEL	2.5 LBS	TM85125	4140	2.5 LBS
9	1	SPUR GEAR, 27T	TM85124	4140 ALLOY STEEL	7.5 LBS	TM85124	4140	7.5 LBS
10	1	SPACER, GEAR/COUPLING	TM85410	1018 C.S.	.25 LBS	TM85410	1018 C.S.	.25 LBS
11	2	SPACER, GEAR/BEARING	TM8596	1018 C.S.	.25 LBS	TM8596	1018 C.S.	.25 LBS
12	1	WASHER, PLAIN, WIDE 3/4	WPW12HT	CS	.125 LBS	WPW12HT	CS	.125 LBS
13	1	WASHER, BELLVILLE, 3/4 X .107 THK	WB12107	CS	.125 LBS	WB12107	CS	.125 LBS
14	1	COTTER PIN, 1/8 x 1 1/2	MM00120	18–8 S.S.	.125 LBS	MM00120	18–8 S.S.	.125 LBS
15	1	NUT, HEX, SLOTTED, 3/4–10	NHS1210	CS	.25 LBS	NHS1210	CS	.25 LBS
16	3	NUT, BEARING, N–07	BN07	1018 C.S.	.25 LBS	BN07	1018 C.S.	.25 LBS
17	3	LOCKWASHER, BEARING , W–07	BW07	1018 C.S.	.125 LBS	BW07	1018 C.S.	.125 LBS
18	2	SETSCREW, 3/8–16 x 1/2	SS061608S	18–8 S.S.	.125 LBS	SS061608S	18–8 S.S.	.125 LBS
19	1	PIPE PLUG 3/8 NPT	PP00027	GALV.	.25 LBS	PP00027	GALV.	.25 LBS
19A	1	PIPE PLUG 1/4 NPT	PP04	GALV.	.25 LBS	PP04	GALV.	.25 LBS
20	10	SCREW, 5/16–18 x 1"	SC051816S	18–8 S.S.	.125 LBS	HC051816S	18–8 S.S.	.125 LBS
21	10	LOCKWASHER, HI–COLLAR 5/16	LWH05S	18–8 S.S.	.125 LBS	LW05S	18–8 S.S.	.125 LBS
22	8	SCREW 3/8–16 x 1 1/2	SC061624S	18–8 S.S.	.125 LBS	SC061624S	18–8 S.S.	.125 LBS
23	8	WASHER BOLT SEALING 3/8	MM00153	18–8 S.S.	.125 LBS	MM00153	18–8 S.S.	.125 LBS
24	10	SCREW 5/16–18 x 1 1/4	HC051820S	18–8 S.S.	.125 LBS	HC051820S	18–8 S.S.	.125 LBS
25	10	LOCKWASHER 5/16	LW05S	18–8 S.S.	.125 LBS	LW05S	18–8 S.S.	.125 LBS
26	1	NAMEPLATE–S/N FMI	NP1000	18–8 S.S.	.25 LBS	NP1000	18–8 S.S.	.25 LBS
27	2oz	LUBRICANT, GREASE, GEAR	LU00003	LUBRICANT	.125 LBS	LU00003	LUBRICANT	.125 LBS
28	1	SHIM, .005"THK	FM00607	CS				

REV NO.	DESCRIPTION	DWN	DATE
1	UPDATED BEARING/SEAL CART'S & HARDWARE	AEW	08/24/01
2	CHANGED BOTTOM HOUSING TO LOW–PROFILE	AEW	12/21/01
3	ADDED ASTM MATERIAL REF.	JHT	03/25/02
4	CHANGED BALLOONING	JHT	06/20/02
5	CHANGED ITEM 41 FROM GREASE FITTING TO PLUG, DELEATED QTY (6) OF ITEM 44, ADDED ITEM 17A	GWC	10/30/03
6	DELEATED QTY (6) OF ITEMS 44 & 48	AG	01/30/04
7	PARTS LIST was updated	AG	05/23/05
8	ADDED COMPONENT WEIGHTS	JT	10/05/05
9	Item #5B was updated, Items #28, 29 were removed	AG	02/10/06
10	Items #2 & 3 were updated	AG	03/13/06
11	Item #3 was updated	AG	07/25/16
12	BEARING/SEAL CARTRIDGES were updated (REV #5)	AG	08/19/19



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C	316LSS–BODY	
–	SEE BOM	
LTR P/N	MATERIAL	WEIGHT#

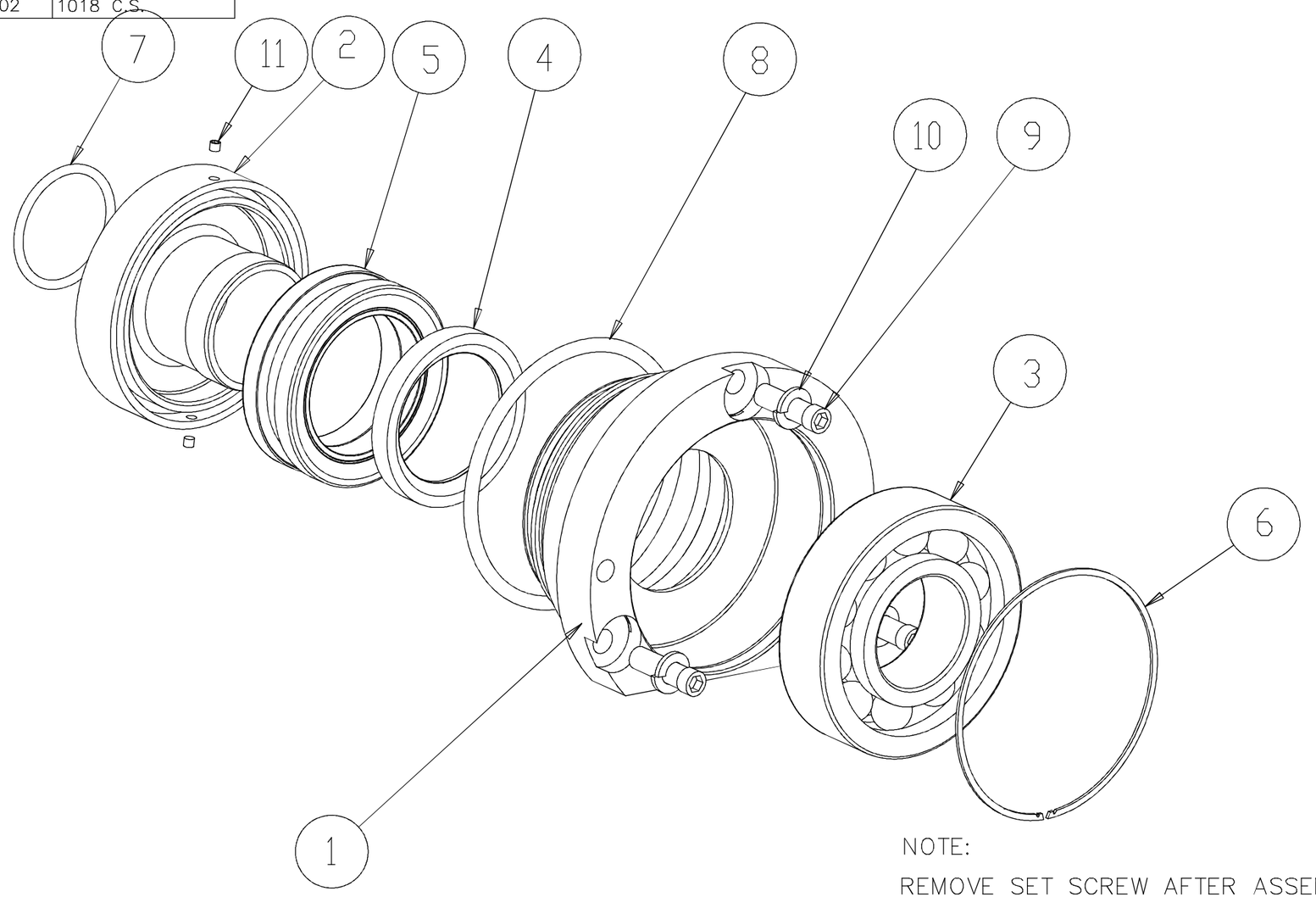
THIRD ANGLE PROJECTION | DIMENSIONS INCH [mm]

Franklin Miller INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

TM8500 COMMON PARTS

SCALE	DWN	DATE	CKD	DATE	DWG NO.	REV
1:3	AEW	10/13/00	.	.	TM850000	12

BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	FMI P/#	MATERIAL
1	1	STATIONARY SEAL GLAND	TM8549C	17-4 PH S.S.
2	1	ROTARY SEAL GLAND	TM8594C	17-4 PH S.S.
3	1	BALL BEARING	BB245616	ALLOY STEEL
4	1	LIP SEAL	SO293906	EPDM
5	1	MECHANICAL SEAL	MS284415T	TUNGSTEN CARBIDE
6	1	RETAINING RING	RR-UR356	1060 C.S.
7	1	O-RING	OR2129B	BUNA
8	1	O-RING	OR2236B	BUNA
9	3	LO-SOCK. HD CAP SCREW 5/16-18 x 1"	SCL051816S	18-8 SS
10	3	LOCKWASHER HI-COLLAR 5/16	LWH05S	18-8 SS
11	2	SET SCREW 8-32 x 1/8	SS083202	1018 C.S.



NOTE:

REMOVE SET SCREW AFTER ASSEMBLY INTO MACHINE!

MACHINE TOLERANCES UNLESS OTHERWISE NOTED			
DECIMALS		FRACTIONS	±1/32
.0	±.015	ANGLES	±.5°
.00	±.010	FINISH	125
.000	±.005		

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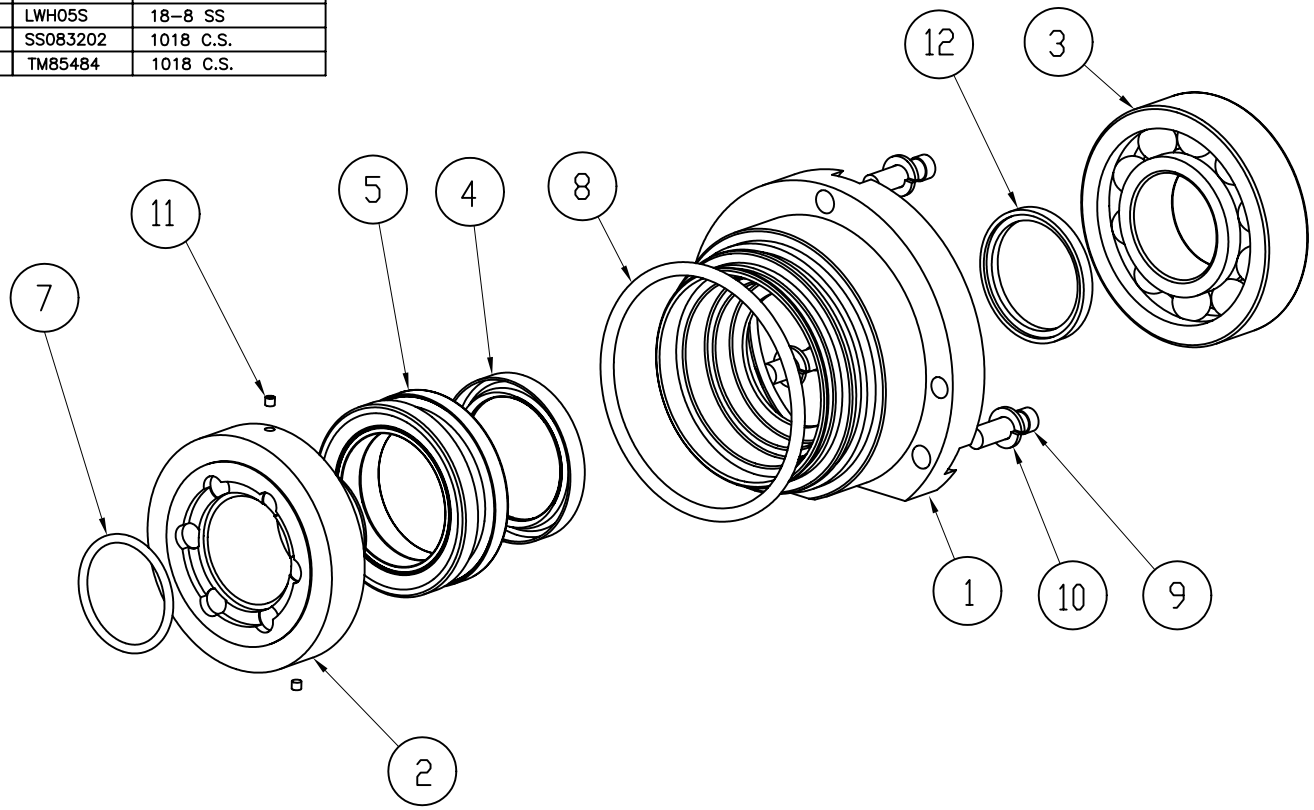
LTR	P/N	MATERIAL	WEIGHT#
V		VITON	
–		EPDM	

Franklin Miller INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

TM8500 FIXED CARTRIDGE ASSEMBLY, T/C, SS

SCALE	DWN	DATE	CKD	DATE	DWG. NO.	REV.
.75	MSS	08/28/06	.	.	TM85760	–

BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	FMI P/#	MATERIAL
1	1	STATIONARY SEAL GLAND	TM8549C	17-4 PH S.S.
2	1	ROTARY SEAL GLAND	TM8594C	17-4 PH S.S.
3	1	BALL BEARING	BB245616	ALLOY STEEL
4	1	LIP SEAL	SO293906	EPDM
5	1	MECHANICAL SEAL	MS284415T	TUNGSTEN CARBIDE
6	–	–	–	–
7	1	O-RING	OR2129B	BUNA
8	1	O-RING	OR2236B	BUNA
9	3	SCREW, SOHCS, 5/16-18 x 1"	SC051816S	18-8 SS
10	3	LOCKWASHER HI-COLLAR 5/16	LWH05S	18-8 SS
11	2	SET SCREW 8-32 x 1/8	SS083202	1018 C.S.
12	1	SPACER, ROTARY GLAND	TM85484	1018 C.S.



NOTE:
REMOVE SET SCREW AFTER ASSEMBLY INTO MACHINE!

MACHINE TOLERANCES UNLESS OTHERWISE NOTED			
DECIMALS		FRACTIONS	±1/32
.0	±.015	ANGLES	±.5°
.00	±.010	FINISH	125
.000	±.005		

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LTR	P/N	MATERIAL	WEIGHT#
V		VITON	
–		EPDM	

FRANKLIN MILLER INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

TM8500 EXPANSION CARTRIDGE ASSEMBLY, T/C, SS

SCALE	DWN	DATE	CKD	DATE	DWG. NO.	REV.
.75	MSS	08/28/06	.	.	TM85990	4

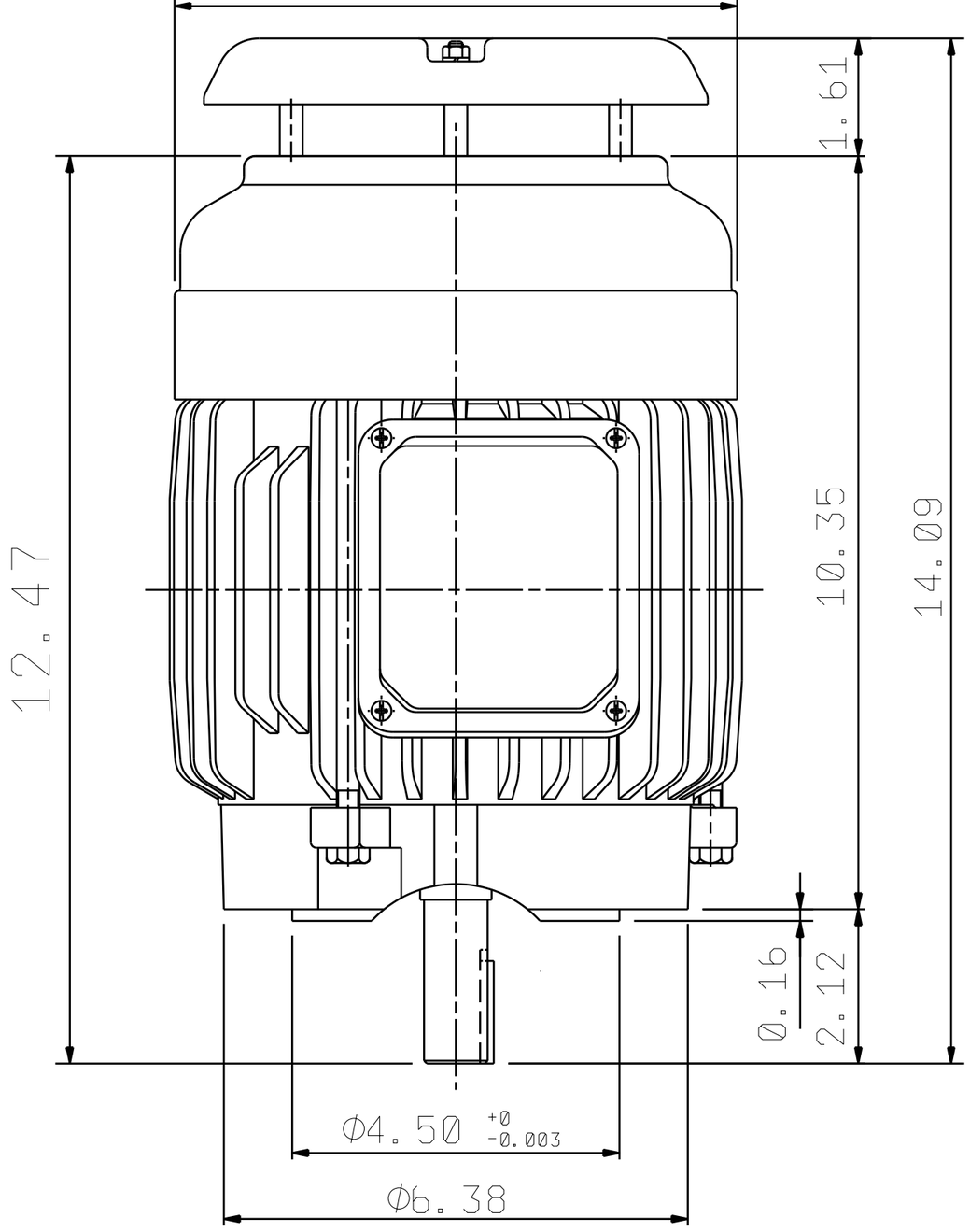
Motor Data

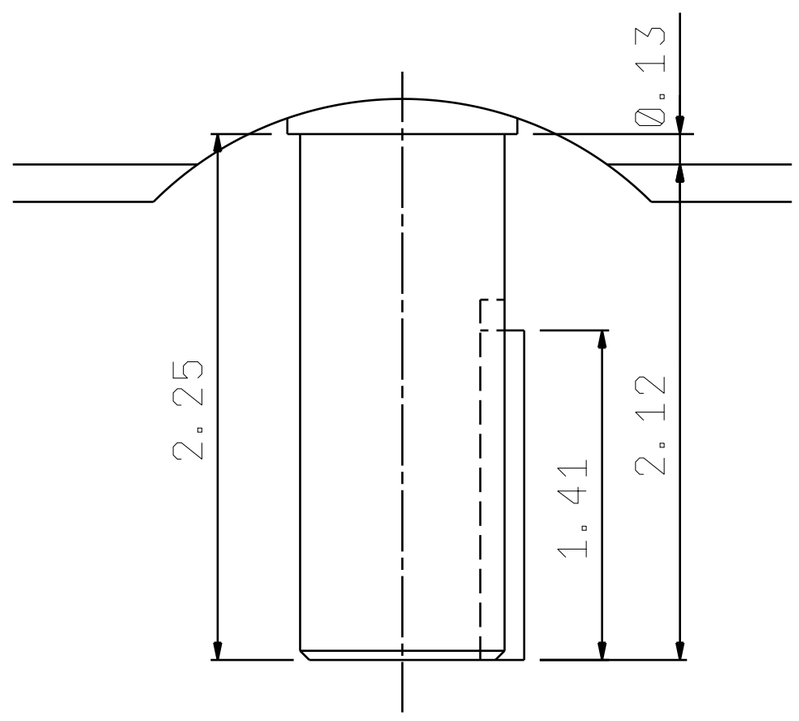
DATE	OUTLINE DIMENSIONS	MOTOR TYPE:
MAY 06, 2017		AEUH8PDC
CATALOG NO.: NPV0014C	3-PHASE INDUCTION MOTOR	FRAME NO. 143TC

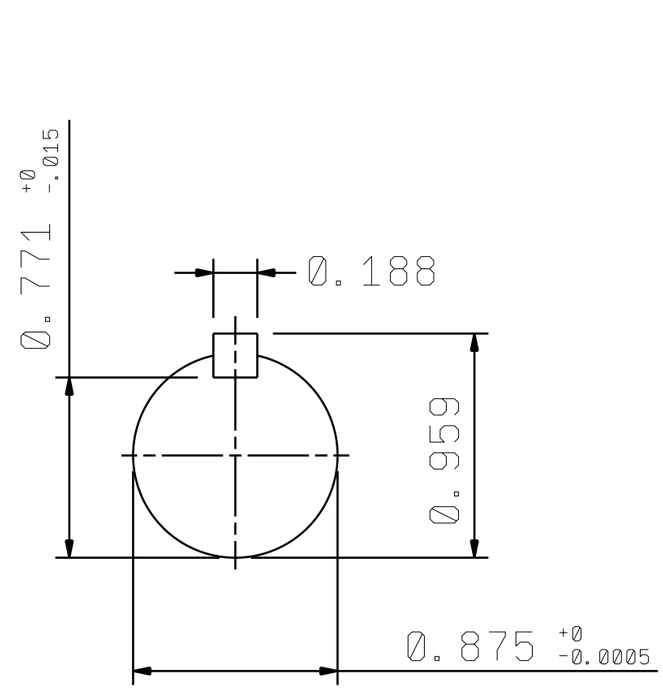
Pole	HP	kW	Hz	VOLT	r/min
4	1.	.75	60	230/460	1800

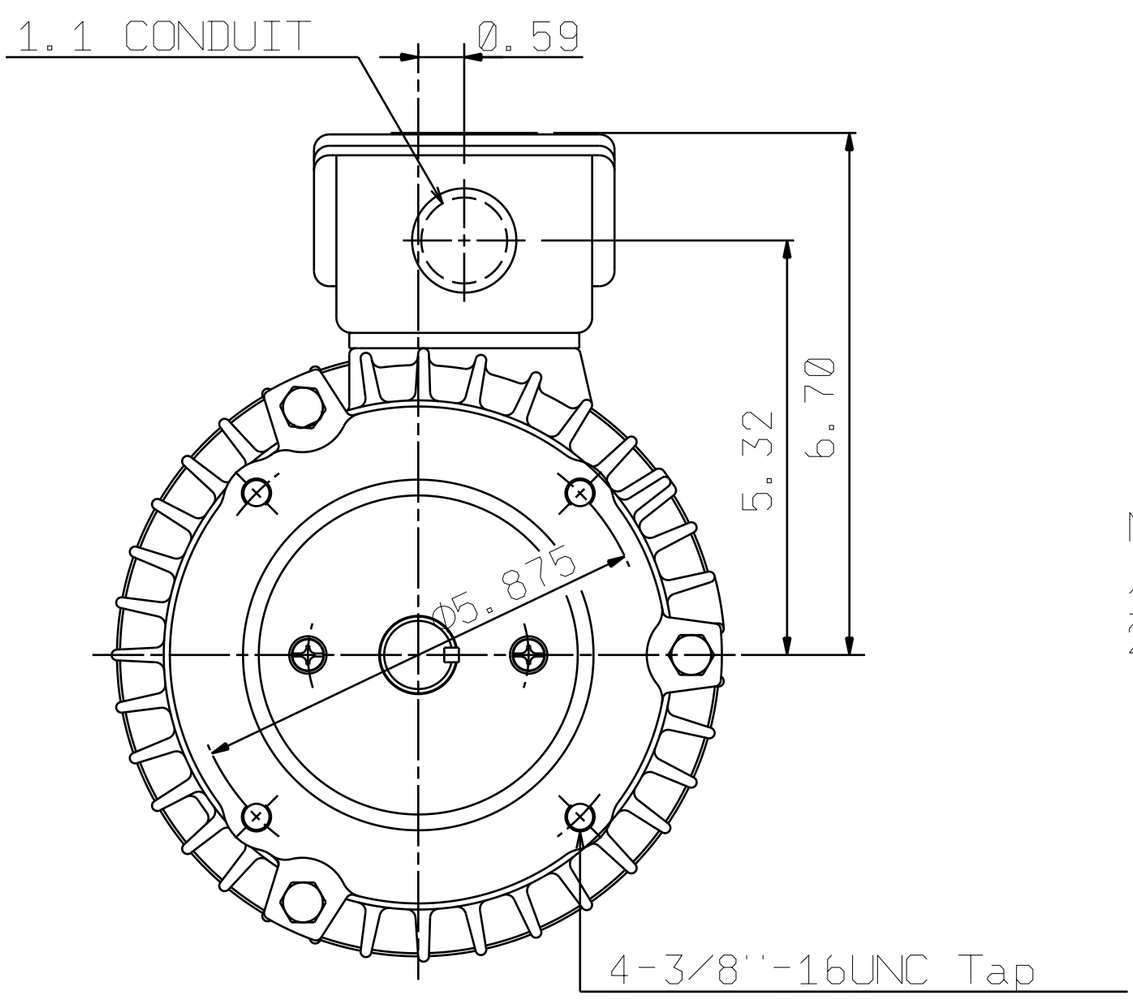
Ins	Rating	Dimension in	Approx Weight	Bearings
F	CONT.	inches	50	DE: 6205ZZ NDE: 6205ZZ

Totally Enclosed Fan-Cooled Vertical Type. Squirrel-Cage Rotor.









NOTES:

1. ENCLOSURE: IP54.
2. FOR DIRECT FLEXIBLE COUPLING.

TA17142-00-01

⓪	.		

DWG.		. .	TECO Westinghouse	DWG NO. 31057A123420
CHKD.		. .		
APPD.		. .		

TECO Westinghouse

ISSUED		ENCLOSURE
5/21/2017	**PERFORMANCE DATA**	TEFC
TYPE	**3-PHASE INDUCTION MOTOR**	CATALOG#
AEUH8PDC		NPV0014C

NAMEPLATE INFORMATION

OUTPUT HP	OUTPUT KW	POLE	FRAME SIZE	VOLTAGE	HZ	RATED AMBIENT	INS. CLASS	NEMA DESIGN	TIME RATING	SERVICE FACTOR
1	0.7	4	143TC	230/460	60	40°C	F	B	CONT.	1.15

VARIABLE FREQUENCY DRIVE SERVICE

VARIABLE TORQUE			
HZ	HP	RPM	TORQUE (lb-ft)
3~60	0.0001~1	90~1800	0.006~3.009

OHMS/PHASE EQUIVALENT WYE CIRCUIT (AT RATED OPERATING TEMPERATURE 25°C)				
R1	R2	X1	X2	X_m
8.1425	6.5479	18.783	11.565	313.61

CONSTANT TORQUE				CONSTANT HORSEPOWER			
HZ	HP	RPM	TORQUE (lb-ft)	HZ	HP	RPM	TORQUE (lb-ft)
6~60	.1~1	180~1800	3.009	60~120	1	1800~3600	3.009~1.505

TYPICAL PERFORMANCE

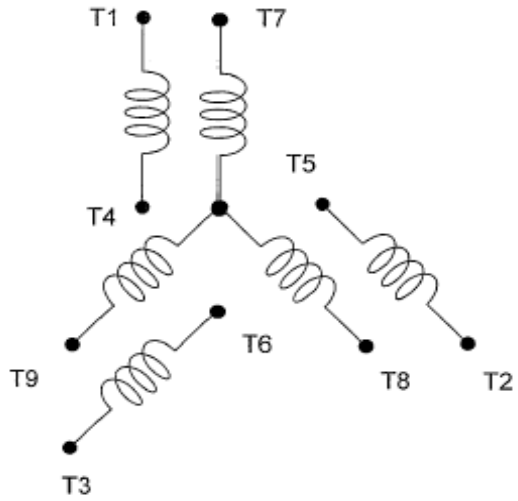
FULL LOAD RPM	EFFICIENCY				POWER FACTOR			SOUND PRESSURE LEVEL @ 3 FT Db(A)
	FULL LOAD		3/4 LOAD %	1/2 LOAD %	FULL LOAD %	3/4 LOAD %	1/2 LOAD %	
	MIN.%	NOM.%						
1745	82.5	85.5	84	81.5	73	64.5	51.5	49

CURRENTS									NEMA KVA CODE LETTER	SAFE STALL TIME IN SECONDS	
NO LOAD			FULL LOAD			LOCKED ROTOR					
AT 208 VOLT	AT 230 VOLT	AT 460 VOLT	AT 208 VOLT	AT 230 VOLT	AT 460 VOLT	AT 208 VOLT	AT 230 VOLT	AT 460 VOLT		COLD	HOT
1.67	1.60	0.8	3.32	3.00	1.50	27.1	30.0	15	N	71	50

TORQUE				INERTIA			ACCEL TIME (DOL)		ALLOWABLE STARTS PER HOUR	
FULL LOAD (lb-ft)	LOCKED ROTOR %FLT	PULL UP %FLT	BREAK DOWN %FLT	ROTOR WR^2 ($lb\text{-}ft^2$)	NEMA LOAD WK^2 ($lb\text{-}ft^2$)	MAX ALLOWABLE WK^2 ($lb\text{-}ft^2$)	NEMA LOAD WK^2 Sec	MAX ALLOWABLE WK^2 Sec	COLD	HOT
3.01	310	280	410	0.086	5.8	46	3.41	26.70	2	1

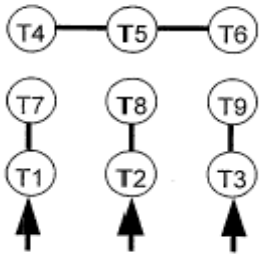
APPROVED:	M. PRATER	DRAWING NO.	31057NPV0014C	REVISION:	1

DATE:	CONNECTION DIAGRAM	CATALOG NO.:
September 13, 2006		**NPV0014C**

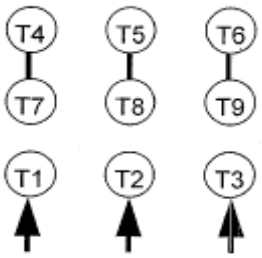


SCHEMATIC - 2Y/Y CONNECTION

ACROSS THE LINE CONNECTION



LINE
230 VOLT CONNECTION



LINE
460 VOLT CONNECTION

TECO Westinghouse

DWG NO.
DAC-1566-2

TECO Westinghouse

ISSUED		ENCLOSURE
5/21/2017	**PERFORMANCE DATA**	TEFC
TYPE	**3-PHASE INDUCTION MOTOR**	CATALOG#
AEUH8PDC		NPV0054C

NAMEPLATE INFORMATION

OUTPUT HP	OUTPUT KW	POLE	FRAME SIZE	VOLTAGE	HZ	RATED AMBIENT	INS. CLASS	NEMA DESIGN	TIME RATING	SERVICE FACTOR
5	3.7	4	184TC	230/460	60	40°C	F	B	CONT.	1.15

VARIABLE FREQUENCY DRIVE SERVICE

VARIABLE TORQUE			
HZ	HP	RPM	TORQUE (lb-ft)
3~60	0.0006~5	90~1800	0.035~15.04

OHMS/PHASE EQUIVALENT WYE CIRCUIT (AT RATED OPERATING TEMPERATURE 25°C)				
R1	R2	X1	X2	X_m
1.2825	1.5103	4.2242	5.2599	115.57

CONSTANT TORQUE				CONSTANT HORSEPOWER			
HZ	HP	RPM	TORQUE (lb-ft)	HZ	HP	RPM	TORQUE (lb-ft)
6~60	.5~5	180~1800	15.04	60~120	5	1800~3600	15.04~7.520

TYPICAL PERFORMANCE

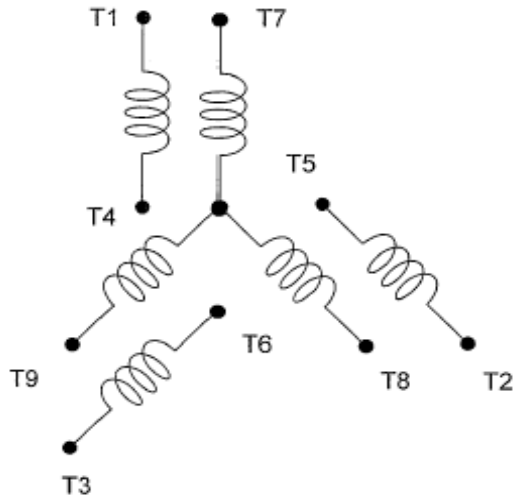
FULL LOAD RPM	EFFICIENCY				POWER FACTOR			SOUND PRESSURE LEVEL @ 3 FT Db(A)
	FULL LOAD		3/4 LOAD %	1/2 LOAD %	FULL LOAD %	3/4 LOAD %	1/2 LOAD %	
	MIN.%	NOM.%						
1745	87.5	89.5	88.5	88.5	85.5	81.5	71.5	54

CURRENTS									NEMA KVA CODE LETTER	SAFE STALL TIME IN SECONDS	
NO LOAD			FULL LOAD			LOCKED ROTOR					
AT 208 VOLT	AT 230 VOLT	AT 460 VOLT	AT 208 VOLT	AT 230 VOLT	AT 460 VOLT	AT 208 VOLT	AT 230 VOLT	AT 460 VOLT		COLD	HOT
4.38	4.44	2.22	13.53	12.24	6.12	83.2	92.0	46	J	35	25

TORQUE				INERTIA			ACCEL TIME (DOL)		ALLOWABLE STARTS PER HOUR	
FULL LOAD (lb-ft)	LOCKED ROTOR %FLT	PULL UP %FLT	BREAK DOWN %FLT	ROTOR WR^2 ($lb\text{-}ft^2$)	NEMA LOAD WK^2 ($lb\text{-}ft^2$)	MAX ALLOWABLE WK^2 ($lb\text{-}ft^2$)	NEMA LOAD WK^2 Sec	MAX ALLOWABLE WK^2 Sec	COLD	HOT
15.04	185	140	285	0.422	27	88	4.68	15.08	2	1

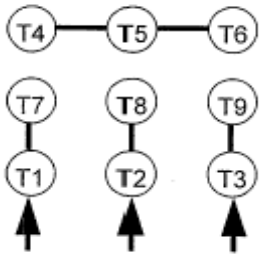
APPROVED:	M. PRATER	DRAWING NO.	31057NPV0054C	REVISION:	1

DATE:	CONNECTION DIAGRAM	CATALOG NO.:
September 13, 2006		**NPV0054C**

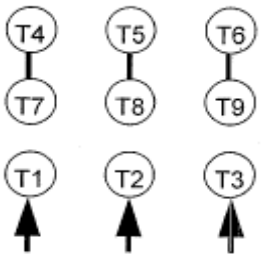


SCHEMATIC - 2Y/Y CONNECTION

ACROSS THE LINE CONNECTION



LINE
230 VOLT CONNECTION



LINE
460 VOLT CONNECTION

TECO Westinghouse

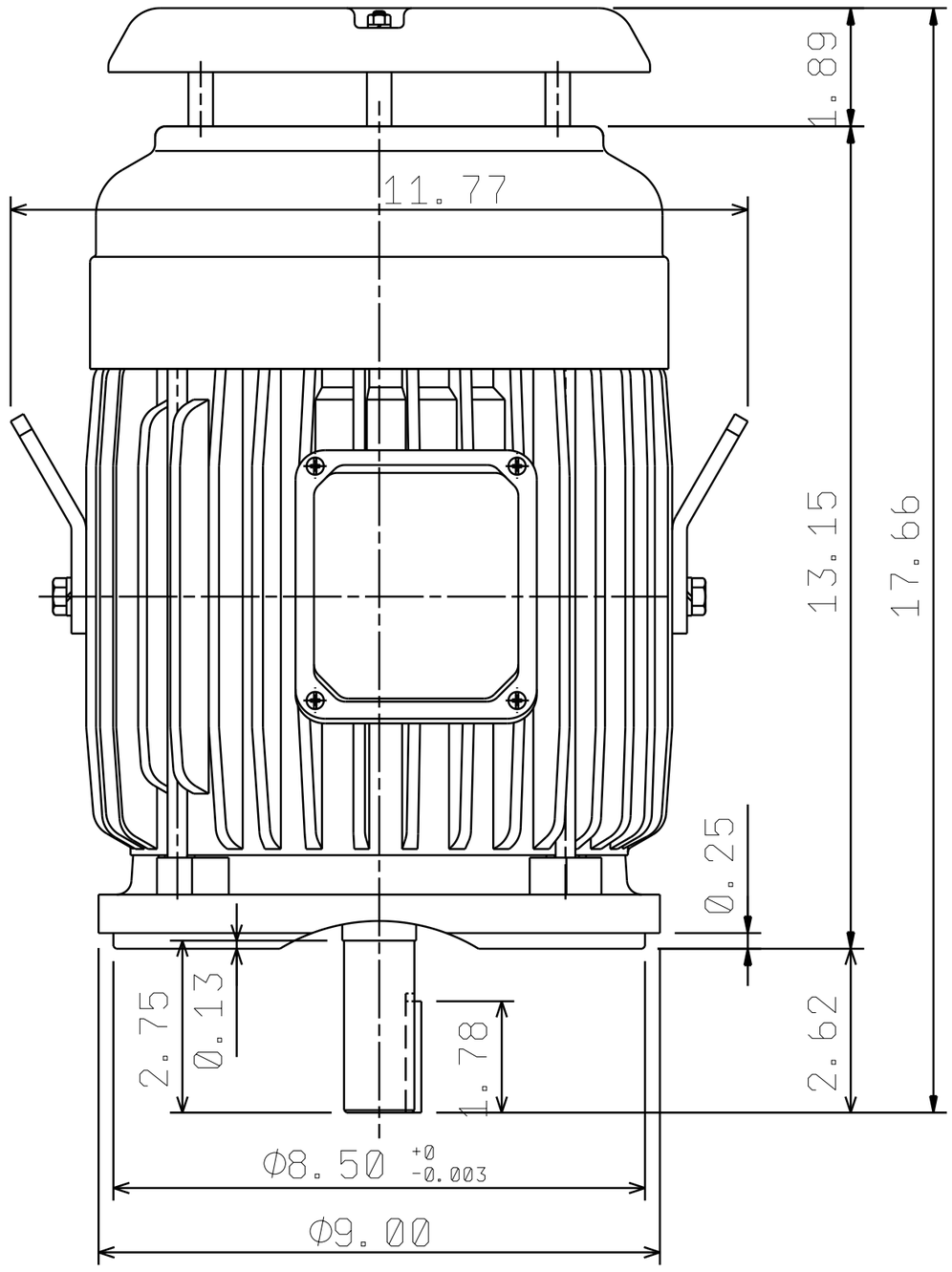
DWG NO.
DAC-1566-2

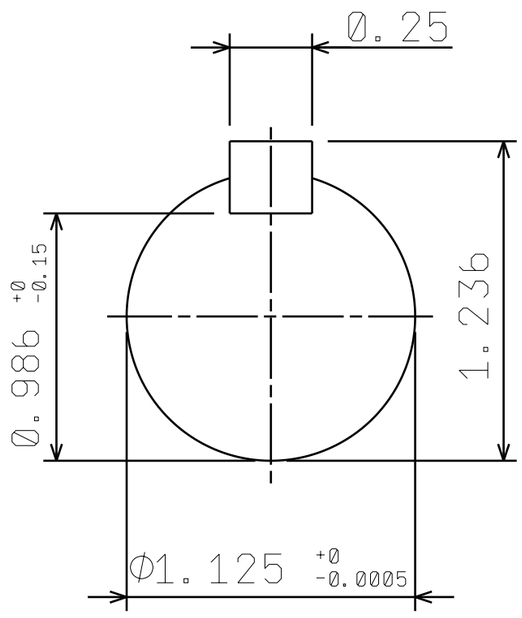
TECO	OUTLINE DIMENSIONS	MOTOR TYPE: AEUH8P-XXX
DATE	3-PHASE INDUCTION MOTOR	FRAME NO. 184TC

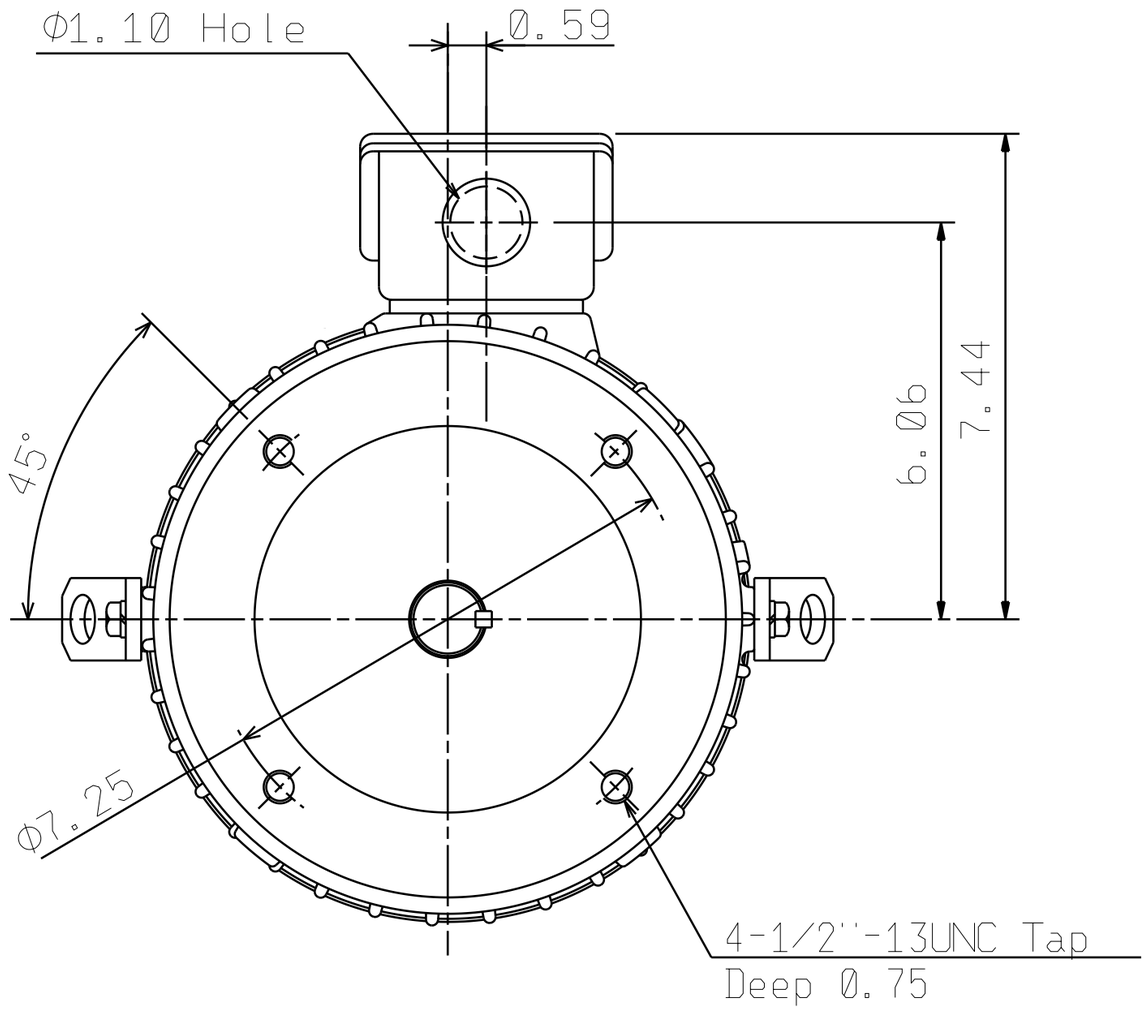
Pole	HP	kW	Hz	VOLT	r/min
4	5	3.73	60	230/460	1800

Ins	Rating	Dimension in	Approx Weight	Bearings
F	CONT.	inches		DE: 6306ZZ NDE: 6306ZZ

Totally Enclosed Fan-Cooled Vertical Type. Squirrel-Cage Rotor.





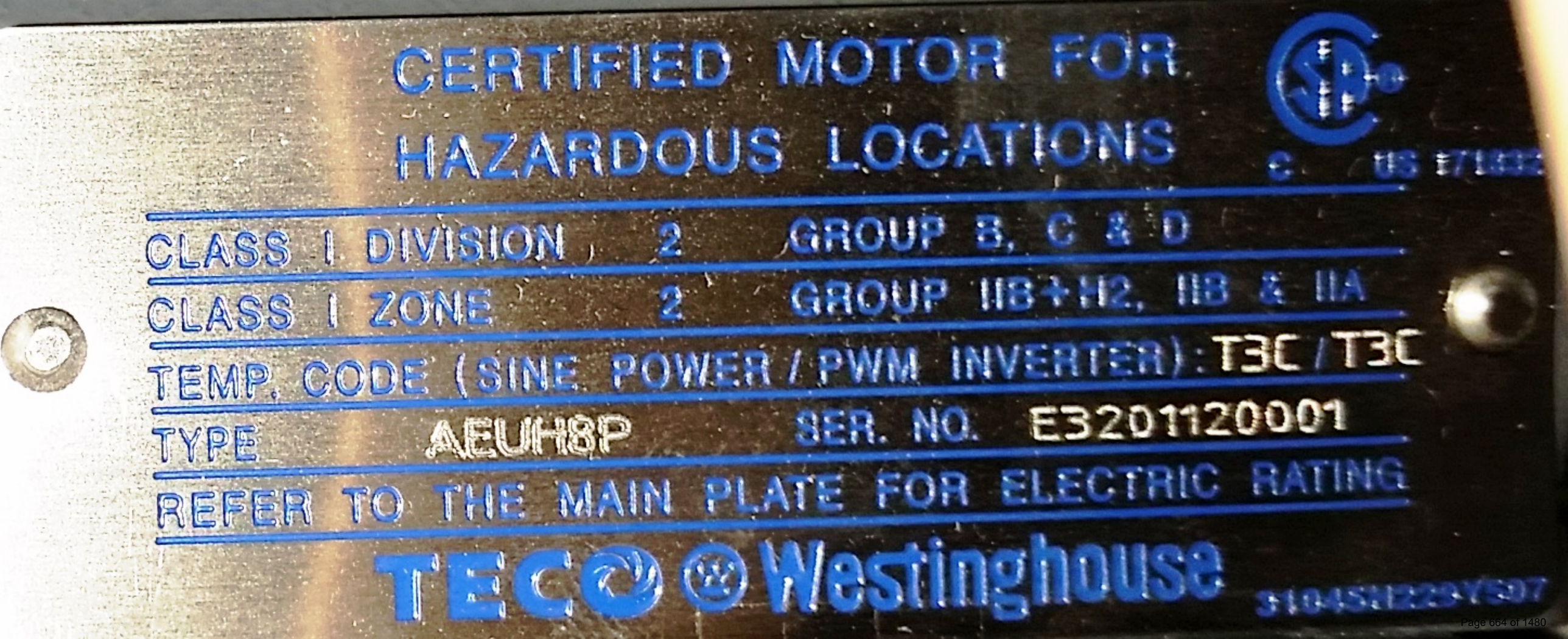


TA171142-00-01

0	.		^B%iD	

DWG.	^B%§	04-12-17	東元電機股份有限公司 TECO Electric & Machinery Co., Ltd. TAIWAN
CHKD.	^B%®	04-12-17	
APPD.	^B%®	04-12-17	

DWG NO. 31057A210500


CERTIFIED MOTOR FOR
HAZARDOUS LOCATIONS
c US
CLASS I DIVISION 2 GROUP B, C & D
CLASS I ZONE 2 GROUP IIB+H2, IIB & IIA
TEMP. CODE (SINE POWER / PWM INVERTER): T3C / T3C
TYPE AEUH8P SER. NO. E3201120001
REFER TO THE MAIN PLATE FOR ELECTRIC RATING
TECO Westinghouse

6 Flow Meter

MAGFLO MAG 5100 W

Overview



The SITRANS F M MAGFLO MAG 5100 W is an electromagnetic flow sensor designed to meet ground water, drinking water, waste water, sewage or sludge applications.

Benefits

- DN 25 to DN 1200 (1" to 48")
- Connection flanges EN 1092-1 (DIN 2501), ANSI, AWWA and AS.
- Hard lining guarantees consistent accuracy throughout the temperature and pressure range
- Soft elastomer facing provides high abrasion resistance.
- Stainless steel integrated grounding and measuring electrodes
- Increased low flow accuracy for water leak detection, due to coned liner design.
- Drinking water approvals
- Suitable for direct burial and constant flooding
- Build-in length according to ISO 13359
- Easy commissioning, SENSORPROM unit automatically uploads calibration values and settings.
- Designed that patented in-situ verification can be conducted. Using SENSORPROM fingerprint.

Application

The main applications of the SITRANS F M MAGFLO electromagnetic flow sensors can be found in the following fields:

- Water abstraction
- Water treatment
- Water distribution network (leak detection management)
- Custody transfer water meters
- Irrigation
- Waste water treatment
- Filtration plant (e.g. reverse osmosis and ultra filtration)
- Industrial water applications

Mode of operation

The flow measuring principle is based on Faradays law of electromagnetic induction were the sensor converts the flow into an electrical voltage proportional to the velocity of the flow.

Function

- Highly resistant to a wide range of chemicals
- Conforms to OIML R49 and ISO 4064
- Meets EEC directives: PED, 97/23/EC pressure directive for EN1092-1 flanges
- Individually calibrated on UKAS ISO 17025 accredited calibration facility with a ± 0.1% uncertainty.
- Simple onsite upgrade to IP68 / NEMA 6P of a standard sensor.

Integration

The complete flowmeter consists of a flow sensor and an associated transmitter SITRANS F M MAGFLO MAG 5000, MAG 6000 or MAG 6000 I.

The flexible communication concept USM II simplifies integration and update to a variety of fieldbus systems, e.g. HART, PROFIBUS DP & PA, MODBUS RTU/RS485, DeviceNet, CANopen.

Technical specifications

Design	Full bore sensor	Coned bore sensor	Full bore sensor
Nominal size	DN 25 ... 40 (1" ... 1½")	DN 50 ... 300 (2" ... 12")	DN 350 ... 1200 (14" ... 48")
Measuring principle	Electromagnetic induction		
Excitation frequency	12.5 Hz	• 50 ... 65 mm (2" ... 2½"): 12.5 Hz • 80 ... 150 mm (3" ... 6"): 6.25 Hz • 200 ... 300 mm (8" ... 12"): 3.125 Hz	3.125 Hz
Process connection			
Flanges			
• EN 1092-1			
- Standard	PN 40 (580 psi)	• 50 ... 150 mm: PN 16 (2" ... 6": 230 psi) • 200 ... 300 mm: PN 10 (8" ... 12": 145 psi)	PN 10 (145 psi)
- Option	--	• 200 ... 300 mm: PN 16 (8" ... 12": 230 psi)	PN 16 (230 psi)
• ANSI B16.5	Class 150 lb	Class 150 lb ~20 bar (290 psi)	--
• AWWA C-207	--	--	28" ... 48": Class D
• AS4087	PN 16 (230 psi) DN 50 ... 1200 (2" ... 48"), 14 bar (232 psi)		
Rated Operation conditions			
Ambient temperature			
• Sensor	-40 ... +100 °C (-40 ... +212 °F)		
• With compact transmitter MAG 5000/6000	-20 ... +50 °C (-4 ... +122 °F)		
• With compact transmitter MAG 6000 I	-20 ... +60 °C (-4 ... +140 °F)		
Operating pressure	0.01 ... 40 bar (0.15 ... 580 psi)	0.03 ... 20 bar [2] (0.44 ... 290 psi)	0.01 ... 16 bar (0.15 ... 232 psi)
Enclosure rating			
• Standard	IP67 to EN 60529 / NEMA 4X/6 (1 mH_2O for 30 minutes)		
• Option	IP68 to EN 60529 / NEMA 6P (10 mH_2O continuously)		
Pressure drop at 3 m/s (10 ft/s)	As straight pipe	Max. 25 mbar (0.36 psi)	As straight pipe
Medium conditions			
Temperature of medium	-5 ... +70 °C [3] (23 ... +160 °F)		
EMC	89/336 EEC		
Design			
Weight	See dimensional drawings		
Material			
• Housing and flanges	Carbon steel ASTM A105		
• Measuring pipe	AISI 304 (1.4301)	Hard elastomer (hard rubber)/Carbon steel	AISI 304 (1.4301)
• Liner	Hard elastomer (hard rubber)[4]	Hard elastomer (hard rubber)[4]	Hard elastomer (hard rubber)[4]
• Electrodes	AISI 316 Ti (1.4571)		
• Grounding electrodes standard	AISI 316 Ti (1.4571)		
Certificates and approvals			
Liner approvals	WRAS (WRc), NSF		
Approvals	PED – 97/23 EC[1](FM Class 1 div 2, CSA Class1 div 2, pending)		

1) For sizes longer than 600 mm (24") PED conformity is available as a cost added option. The basic unit will carry the LVD (Low Voltage Directive) and EMC approval.
2) 10 bar at temperature below 5 °C (40 °F)
3) Peak temperature up to +90 °C (194 °F) in periods < 1 hour
4) Nitrile, NBR

MAGFLO MAG 5100 W

The effect of temperature on working pressure MAG 5100 W

Pressure in bar (psi)					
Sizes 25 mm, 40 mm and > 300 mm (1", 1½" and > 12")					
		Temperature			
Flange spec.	Flange rating	-5 °C (23 °F)	10 °C (50 °F)	50 °C (122 °F)	90 °C (194 °F)
EN 1092-1	PN 10	10.0 (145)	10.0 (145)	9.7 (141)	9.4 (136)
	PN 16	16.0 (232)	16.0 (232)	15.5 (225)	15.1 (219)
	PN 40	40.0 (580)	40.0 (580)	38.7 (561)	37.7 (547)
ANSI B16.5	150 lbs	19.7 (286)	19.7 (286)	19.3 (280)	18.0 (261)
AWWA C-207	Class D	10.3 (150)	10.3 (150)	10.3 (150)	10.3 (150)
Size 50 mm to 300 mm (2" to 12")					
EN 1092-1	PN 10	10.0 (145)	10.0 (145)	10.0 (145)	8.2 (119)
	PN 16	10.0 (145)	16.0 (232)	16.0 (232)	13.2 (191)
	PN 40 (MWP 20 bar (290 psi))	10.0 (145)	40.0 (580)	40.0 (580)	32.9 (477)
ANSI B16.5	150 lbs	10.0 (145)	19.7 (286)	19.7 (286)	16.2 (235)

Knife Gate Valve

MODEL ET

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

HEAVY DUTY KNIFE GATE VALVE

The ET model knife gate is an uni-directional lug type valve designed according to MSS-SP-81 and TAPPI TIS 405-8 for industrial service applications.
The design of the body and seat assures non-clogging shut off on suspended solids in industries such as:

- Pulp and Paper
- Power plants
- Mining
- Chemical plants
- Wastewater
- Food and Beverage
- etc.



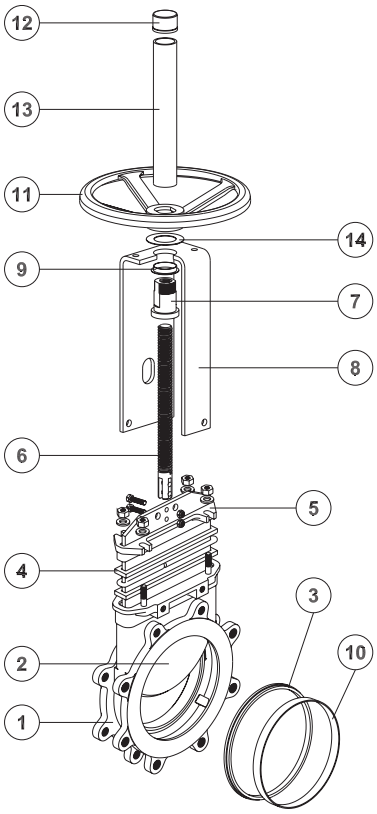
Sizes: DN 50/2" to DN 900/36" (larger diameters on request)

Working pressure: DN 50/2" to DN 600/24": 10 kg/cm² / 150 psi
DN 750/30": 7 kg/cm² / 100 psi
DN 900/36": 7 kg/cm² / 100 psi

Standard flange connection: DIN PN 10 and ANSI B16.5 (class 150)
Others on request

Directives: DIR 98/37/CE (MACHINES)
DIR 97/23/CE (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A)
DIR 94/9/CE (ATEX) Please contact Orbinox for information and availability of categories and zones.

All valves are tested prior to shipping in accordance with the standard developed by the Quality Control Department at ORBINOX.



STANDARD PARTS LIST

Part:	Stainless Steel:
1- Body	CF8M
2- Gate	AISI 316
3- Seat	Metal or EPDM
4- Packing	PTFE Impreg. Synth. Fibre
5- Gland Follower	CF8M
6- Stem	AISI 430
7- Stem Nut	Brass
8- Yoke	Carbon Steel - Epoxy Coated
9- Collar	Nylon
10- Seat Retainer Ring	AISI 316
11- Handwheel	$\varnothing \leqslant 310$: ductile iron / $\varnothing \geqslant 410$: GG25
12- Cap	Plastic
13- Stem Protector	Carbon Steel - Epoxy Coated
14- Thrust Washer	Brass

Reserves the right to change specifications without notice

ORBINOX S.A. Pol. Ind. s/n-20270 ANOETA (Spain) Tel.: +34 943 698030 - Fax: +34 943 653066 e-mail:orbinox@orbinox.com
ORBINOX CANADA, ORBINOX USA, ORBINOX BRAZIL, ORBINOX COMERCIAL, ORBINOX UK, ORBINOX FRANCE, ORBINOX GERMANY, ORBINOX INDIA, ORBINOX CHINA, ORBINOX S.E.A.
www.orbinox.com

MODEL ET

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

DESIGN FEATURES

BODY:
One piece integrally cast stainless steel body with reinforced ribs in larger diameters for extra body strength.
Internal cast gate wedges and guides allows for tighter shutoff.
Port design according to MSS-SP-81 and Tappi TIS 405-8.
Internal design avoids any build up of solids that would prevent valve from closing.

GATE:
Standard AISI 316 stainless steel gate.
Gates polished and lapped for a greater seal between the gate with both packing and seat.
Bottom of the gate edge is machined to a bevel to cut through solids for a tighter seal in the closed position.

SEAT: (resilient)
Unique design that mechanically locks the seat in the internal of the valve body with a stainless steel retainer ring.
Standard EPDM; also available in different materials such as Viton, PTFE, etc.

PACKING:
Standard braided PTFE impregnated fibre with EPDM o-ring for better shut off, with an easy access packing gland ensuring a tight seal
Long-life braided packing is available in a wide range of materials.

STEM:
The standard stainless steel stem offers a long corrosion resistant life.
For rising stem handwheel actuators only, a stem protector is provided for additional protection against dust while the valve is in the open position.

ACTUATORS:
All actuators supplied by **ORBINOX** are interchangeable, and supplied with an standard mounting kit to allow for installation on site.

YOKE or ACTUATOR SUPPORT:
Made of EPOXY coated steel (stainless steel available on request).
Compact design makes it extremely robust even under the most severe conditions.

EPOXY COATING:
The epoxy coating on all **ORBINOX** cast iron and carbon steel valve bodies and components is electrostatically applied making the valves to be corrosion resistant with a high quality finished surface.
The **ORBINOX** standard colour is RAL-5015 blue.

GATE SAFETY PROTECTION:
ORBINOX automated valves are provided with gate guards in accordance with EU Safety Standards.
The design feature prevents any objects from being caught accidentally while the gate is moving.



MODEL ET

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

ELECTRIC ACTUATOR

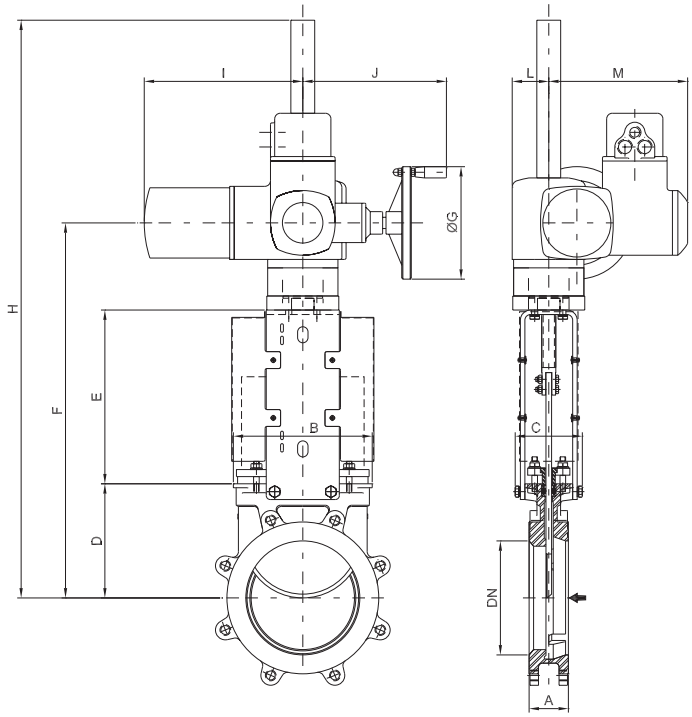
- Consists of:
  - Electric motor
  - Rising stem
  - Motor support yoke
    (Acc. to ISO 5210/DIN 3338)

- The standard electric motor is equiped with:
  - Manual emergency operation
  - Limit switches (open/closed)
  - Torque switches

- Available from DN 50/2" to DN 900/36"

- Wide range of types and marks available to meet customer's needs.

- Option:
  - Non rising stem



DN ("/mm.)	A	B	C	D	E	F	ØG	H	I	J	L	M	Stemø x pitch	Torque(Nm)
2"/50	48	124	100	98	136	377	160	454	265	249	62	237	20 x 4	10
3"/80	51	149	100	119	162	424	160	501	265	249	62	237	20 x 4	10
4"/100	51	169	100	139	187	469	160	546	265	249	62	237	20 x 4	10
5"/125	57	169	100	150	223	516	160	593	265	249	62	237	20 x 4	15
6"/150	57	197	100	165	237	545	160	1122	265	249	62	237	20 x 4	20
8"/200	70	247	122	203	309	667	160	1255	265	249	62	237	24 x 5	30
10"/250	70	298	122	233	345	733	160	1321	265	249	62	237	24 x 5	45
12"/300	76	349	122	273	390	793	200	1381	282	256	65	247	24 x 5	70
14"/350	76	391	193	312	433	875	200	1463	282	256	65	247	36 x 6	110
16"/400	89	439	193	347	478	955	315	1543	384	324	85	285	36 x 6	160
18"/450	89	483	270	415	552	1142	315	1870	384	324	90	285	36 x 6	190
20"/500	114	542	270	450	611	1222	400	1950	384	336	90	285	36 x 6	270
24"/600	114	637	270	501	697	1444	400	2172	384	336	90	285	40 x 6	450
30"/750	117	842	320	624	883	1779	500	2832	436	355	170	330	50 x 8	550
36"/900	117	970	320	779	1046	2035	500	3080	510	355	195	330	50 x 8	800

* For sizes 12" and above, Torque figures calculated based on pressure rate for EX valve model.

8 PH Sensor

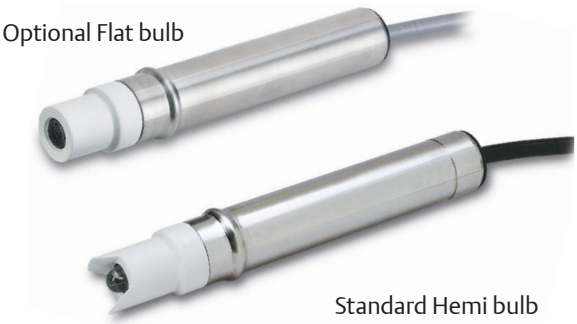
TUpH 396, 396VP, 396P, 396PVP, 396R, 396RVP

Retraction/Submersion/Insertion pH/ORP Sensors

- Smart enabled
- SILCORE™ technology provides increased sensor life when used in elevated temperature applications.
- Quick cable-to-sensor release, provided by the watertight VP8 connector, eliminates cable twisting.
- Minimum sensor maintenance due to TUpH reference technology which ensures steady pH signal when sensor is coated.
- Maximum sensor life due to helical reference pathway which hinders reference poisoning.
- Field proven ACCUGLASS™ pH glass formulations minimize glass cracking, resulting in enhanced performance and increased life.
- Provides advanced sensor diagnostics for pH and reference signals when used with Rosemount Analytical's advanced analyzers.
- Maximum Pressure Specifications of 150 psig (1135 kPa [abs]) at 100 ° C (212 ° F)

Features and Applications

TUpH pH/ORP-sensors are now offered with SMART capabilities. SMART option becomes enabled when used with the 1056, 1057 1066, and 56 Analyzers. The pH-loop capabilities include auto-recognition of the SMART sensor, automatic upload of calibration data and associated time stamp, historical recording of pH diagnostics (slope, offset, reference impedance, glass impedance). This trending data allows technicians to predict frequency of maintenance and estimate sensor life for a particular process condition. Additional SMART features include factory calibration, resetting SMART sensor calibration data with user menus, and manufacturing information.



396 and 396VP

A large self cleaning optional flat or standard hemi glass bulb electrode in a stainless steel body, completely sealed by EPDM to eliminate process intrusion.



396P and 396PVP

A RUGGED THREADED POLYPROPYLENE BODY for maximum chemical resistance and completely sealed to eliminate process intrusion. EPDM to eliminate process intrusion.



396R and 396RVP

A Titanium retractable body for insertion depths up to 27 inches and easy sensor removal under pressure without process shutdown (ball valve kit shown can be purchased separately).

1066
Liquid Analytical Transmitter

- Wide range of sensor inputs – measures pH, ORP, Contacting and Toroidal Conductivity, % Concentration, Total Chlorine, Free Chlorine, Monochloramine, Oxygen, Ozone and Temperature
- Large display – large easy-to-read process measurements, user-definable display of measurement diagnostic parameters
- Digital communications – HART® version 7 and FOUNDATION™ fieldbus communication protocols available for host monitoring and configuration
- Intuitive menu screens with advanced diagnostics and help screens
- SMART-enabled – automatic calibration with SMART pH sensors
- Two 4-20mA current outputs are standard on the 1066 HART



Features and Applications

This loop-powered analytical unit serves industrial, commercial and municipal applications with the widest range of liquid measurement inputs available for a two-wire liquid transmitter.

The 1066 SMART transmitter supports continuous measurement of one liquid analytical input. The design supports easy internal access and wiring connections. The large display gives excellent visibility for live measurements and displayed parameters. Conveniently, live process values are always displayed during programming and calibration routines.

Analytical measurements: pH/ORP, Resistivity/Conductivity, % Concentration, Total Chlorine, Free Chlorine, Monochloramine, Dissolved Oxygen, and Ozone.

Large display: The high-contrast LCD provides live measurement readouts in large digits and shows up to four additional variables or diagnostic parameters. The display parameters can be customized to meet user requirements.

Digital communications: The 1066 HART communications can be switched between HART version 7 and HART version 5 at the transmitter. This makes it possible to take advantage of the new features of HART 7, or maintain compatibility with older HART 5 hosts, which are not yet HART 7 capable. The Fieldbus version of the 1066 transmitters provide the advanced features of ITK 6, along with additional functions blocks to allow them to participate more fully in control in the field.

Specifications - General

Enclosure: Polycarbonate. Type 4X, IP66

Dimensions: Overall 155 x 155 x 131mm (6.10 x 6.10 x 5.15 in.). Cutout: ½DIn 139mm x 139mm (5.45 x 5.45 in.)

Display: Monochromatic graphic liquid crystal display. no backlight. 128 x 96 pixel display resolution. Active display area: 58 x 78mm (2.3 x 3.0 in.). All fields of the main instrument display can be customized to meet user requirements.

Ambient temperature and humidity: -20 to 65 °C (-4 to 149 °F), RH 5 to 95 % (non-condensing).

RFI/EMI: En-61326

Complies with the following Standards:

CSA: C22.2 no 0 – 10; C22.2 no 0.4 – 04; C22.2 no. 25-M1966; C22.2 no. 94-M1991; C22.2 no.142-M1987; C22.2 no. 157-M1992; C22.2 no. 213-M1987; C22.2 no. 60529:05

ATEX: IEC 60079-0:2011, 60079-11:2011

IECEx: IEC 60079-0: 2011 Edition: 6.0, I EC 60079-11 : 2011-06 Edition: 6.0

FM: 3600: 2011, 3610: 2010, 3611: 2004, 3810: 2005, IEC 60529:2004, AnSI/IEC 60079-0: 2009, AnSI/IEC 60079-11: 2009

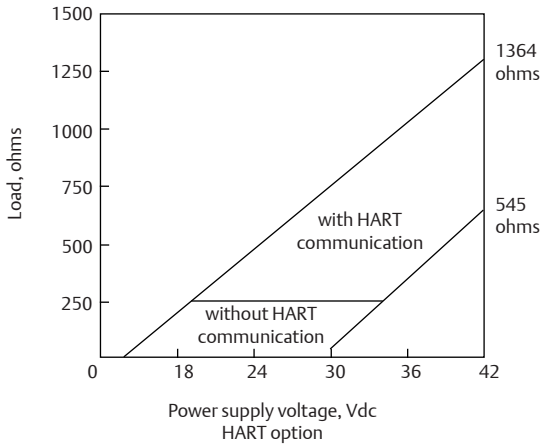


Figure 1. Load/Power Supply Requirements

Input: One isolated sensor input. Measurement choices of pH/ORP, resistivity/conductivity/TDS, % concentration, total and free chlorine, monochloramine, dissolved oxygen, dissolved ozone, and temperature. For contacting conductivity measurements, temperature element can be a PT1000 RTD or a PT100 RTD. Other measurements and use PT100 or PT1000 RTDs or a 22k nTC (D.O. only).

Power & Load Requirements: Supply voltage at the transmitter terminals should be at least 12.7Vdc. Power supply voltage should cover the voltage drop on the cable plus the external load resistor required for HART communications (250Ω)

Hazardous Location Approvals

Intrinsic Safety (with appropriate safety barrier):

Class I, II, III, Div. 1*
Groups A-G
T4 Tamb = -20 °C to 65 °C
Enclosure 4X, IP66

IECEx BAS 11.0098X
Ex ia IIC T4 Ga
T4 Tamb = -20 °C to 65 °C

CE 1180 II 1 G
Baseefa11ATEX0195X
Ex ia IIC T4 Ga
T4 Tamb = -20°C to 65°
For non-Incendive Field Wiring Installation, see drawing 1400670

Class I, II & III, Division 1, Groups A-G T4
Tamb = -20 °C to 40 °C for -FI option
Tamb = -20 °C to 65 °C for -HT and -FF options
IP66 enclosure
Class I, Zone 0, AEx ia IIC T4
Tamb = -20 °C to 40 °C for -FI option
Tamb = -20 °C to 65 °C for -HT and -FF options
For non-Incendive Field Wiring Installation, see drawing 1400669

Non-Incendive:

Class I, Div. 2, Groups A-D*
Dust Ignition Proof Class II & III, Div 1, Groups EFG
Class II & III, Div. 1, Groups E-G
Type 4/4X Enclosure
T4 Tamb = -20 °C to 65 °C
For non-Incendive Field Wiring Installation, see drawing 1400669

Class I, Division 2 Groups A-D
Dust Ignition proof Class II & III, Div 1, Groups EFG
Class II & III, Division 1, Groups E-G
IP66 enclosure
For non-Incendive Field Wiring Installation, see drawing 1400670

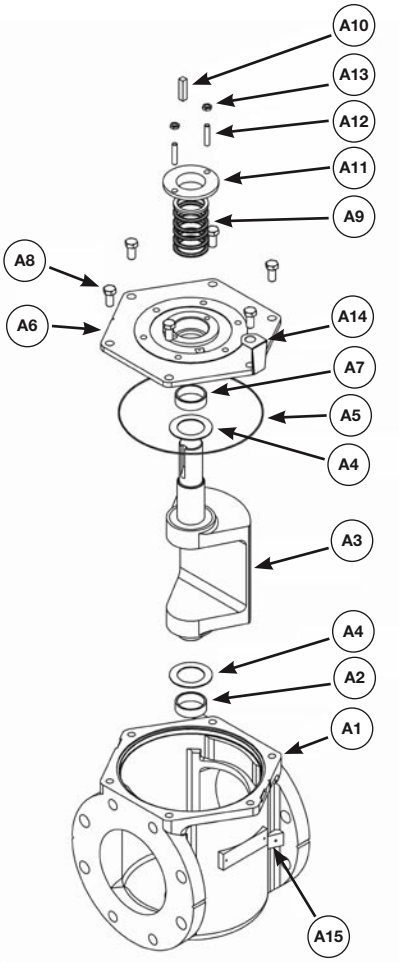
*Additionally approved as a system with models 140,141,142, 150, 400, 400VP, 401, 402, 402VP, 403,403VP, 404 & 410VP contacting conductivity sensors and models 222, 225, 226 & 228 inductive conductivity sensors.

Plug Valve

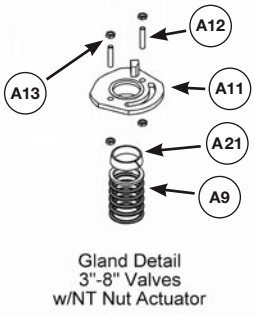
Materials of Construction

Item	Description	Material
A1	Body	Cast Iron, ASTM A126, Class B
A2	Body Bearing	316L Stainless Steel. Sintered Stainless Steel
A3	Plug	Metal, (Ductile Iron, ASTM A536, Grade 65-45-12)
		CR Chloroprene
		NBR Acrylonitrile-Butadiene
A4	Grit Excluder	PTFE
A5	O-Ring	Non-asbestos filler in Styrene-Butadiene Rubber binder (NBR)
A6	Bonnet	Cast Iron, ASTM A126, Class B
A7	Bonnet Bearing	316L Stainless Steel, Sintered Stainless Steel
A8	Bonnet Screws	Carbon Steel, Class 8.8, Zinc Plated
		Stainless Steel, Grade A2, (18-8)
		Stainless Steel, Grade A4, (316)
A9	Packing	NBR Acrylonitrile-Butadiene, V-Type
A10	Key	Steel, ASTM A108
A11	Gland	Cast Iron, ASTM A126, Class B
A12	Gland Stud	Carbon Steel, Class 8.8, Zinc Plated
		Stainless Steel, Grade A2, (18-8)
		Stainless Steel, Grade A4, (316)
A13	Nut	Carbon Steel, Zinc Plated
		Stainless Steel, A2, (18-8)
		Stainless Steel, A4, (316)
A14	Caution Tag	Stainless Steel
A15	Pipe Plug (optional)	Galvanized Carbon Steel
A16	O-Ring	Non-asbestos filler in Styrene-Butadiene Rubber binder (NBR)
A17	Journal Cover	Cast Iron, ASTM A126, Class B
A18	Screw	Carbon Steel, Class 8.8, Zinc Plated
		Stainless Steel, Grade A2, (18-8)
		Stainless Steel, Grade A4, (316)
A21	Friction Cone	Ryton
A23	Pipe Plug (optional)	Galvanized Carbon Steel
		316 Stainless Steel

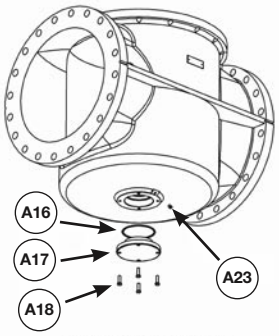
Flanged Construction
3" (80mm) and Larger



Valve Assembly
3" - 36" Valves



Gland Detail
3"-8" Valves
w/NT Nut Actuator



Journal Cover Detail
24" - 36" Valves

Applicable Standards

DeZURIK PEF 100% Port Eccentric Plug Valves are designed and/or tested to meet the following standards:

AWWA C517-05 Resilient-Seated Cast-Iron Eccentric Plug Valve.

ANSI flange drilling conforms to ANSI B16.1, Class 125 and ANSI B16.5, Class 150.
Mechanical-joint end connections conform to ANSI/AWWA C111/A21.11.

MSS-SP91 guidelines for manual operation of valves.

Metric 10 bar flange drilling conforms to the NP 10 requirements of International Standard ISO 2084, to the 10 bar requirements of British Standard 4504, and to the NP 10 requirements of German Standard DIN 2532.

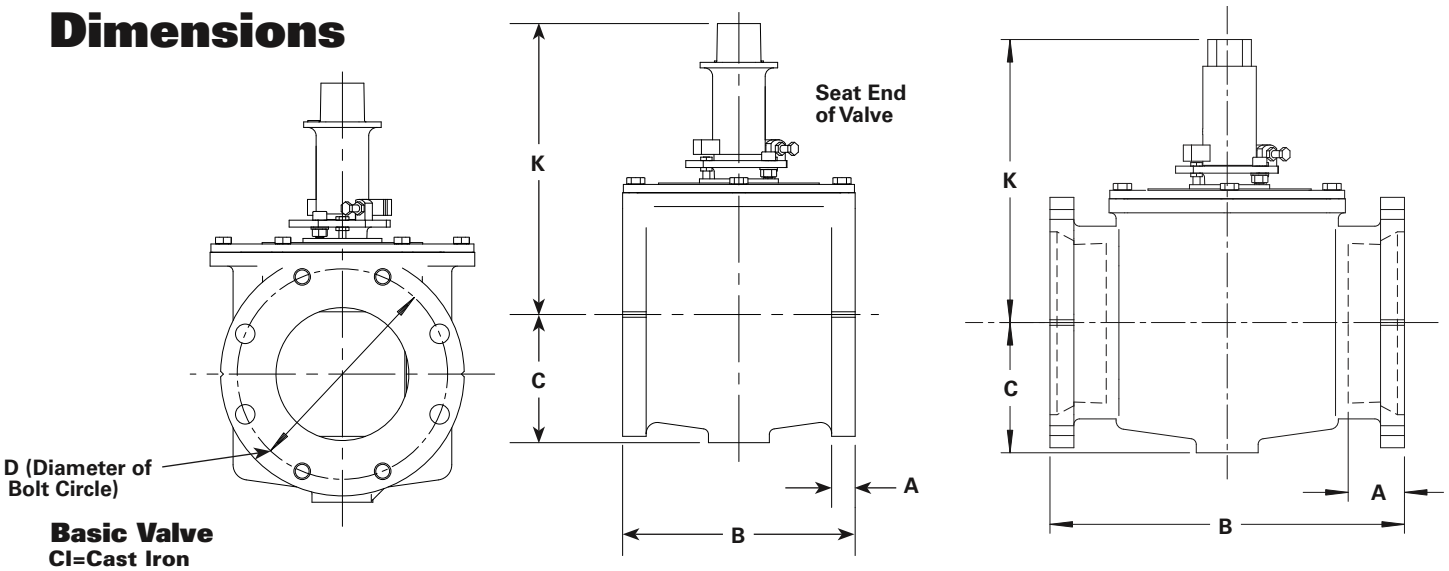
Metric 16 bar flange drilling conforms to the NP 16 reguirements of International Standard ISO 2084, to the 16 bar requirements of British Standard 4504, and to the NP 16 requirements of German Standard DIN 2533.

British Table D flange drilling and Table E flange drilling conform to British Standard BS 10.

Japanese 10 bar flange drilling conforms to Japanese Industrial Standard JIS B 0203.

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Dimensions



Basic Valve
CI=Cast Iron

Valve Size	A		B		C	D (Flanged)	
	Flanged CI	Mechanical Joint	Flanged	Mechanical Joint			
3" 80mm	0.83 21	2.50 63	8.00 203	11.50 292	3.56 90	6.00 152	
4" 100mm	1.02 26	2.50 63	9.00 229	14.25 362	4.43 113	7.50 191	
5 & 6" 125 & 150mm	1.04 26	2.50 63	10.50 267	15.75 400	5.79 147	5" (125mm) 8.50 216	6" (150mm) 9.50 241
8" 200mm	1.23 31	2.50 63	11.50 292	17.38 441	7.65 194	11.75 298	
10" 250mm	1.30 33	2.50 63	13.00 330	19.38 492	9.19 233	14.25 362	
12" 300mm	1.36 35	2.50 63	14.00 355	20.75 527	11.53 293	17.00 432	
14" 350mm	1.50 38	3.50 89	17.00 431	24.50 622	12.06 306	18.75 476	
16" 400mm	1.55 39	3.50 89	17.75 450	27.25 692	14.13 359	21.25 540	
18" 450mm	1.68 43	3.50 89	21.50 546	29.25 743	15.57 395	22.75 578	
20" 500mm	1.76 45	3.50 89	23.50 596	31.00 787	16.81 427	25.00 635	
24" 600mm	2.06 52	3.50 89	42.00 1067	42.00 1067	19.31 490	29.50 749	
30" 750mm	2.53 64	4.00 102	51.00 1295	51.00 1524	21.75 552	36.00 914	
36" 900mm	2.78 71	4.00 102	60.00 1524	60.00 1524	26.38 670	42.75 1086	

Inch
Millimeter

Nut Actuated Valves (NT)
3-8" (80-200mm)

Valve Size	K
3" 80mm	9.38 203
4" 100mm	9.88 219
5 & 6" 125 & 150mm	12.31 313
8" 200mm	15.56 395

Inch
Millimeter

Note: All dimensions are subject to change without notice.
Request certified drawings for use in preparing piping layout.

VALVE SIZE		DIMENSIONS INCHES / MILLIMETERS									
INCH	MM	A	B	C	D	E	F	G	H	J	K
3	80	.83 / 21	8.00 / 203	3.56 / 90	6.00 / 152	5/8–11 UNC	4	.81 / 21	N/A	N/A	9.38 / 203
4	100	1.02 / 26	9.00 / 229	4.43 / 113	7.50 / 191	5/8–11 UNC	4	.62 / 16	.75 / 19	4	9.88 / 219
5	125	1.04 / 26	10.50 / 267	5.79 / 147	8.50 / 216	3/4–10 UNC	4	.69 / 18	3/4–10 UNC	4	12.31 / 313
6	150	1.04 / 26	10.50 / 267	5.79 / 147	9.50 / 241	3/4–10 UNC	4	.69 / 18	.88 / 22	4	12.31 / 313
8	200	1.23 / 31	11.50 / 292	7.65 / 194	11.75 / 298	3/4–10UNC	4	.75 / 19	.88 / 22	4	15.56 / 395

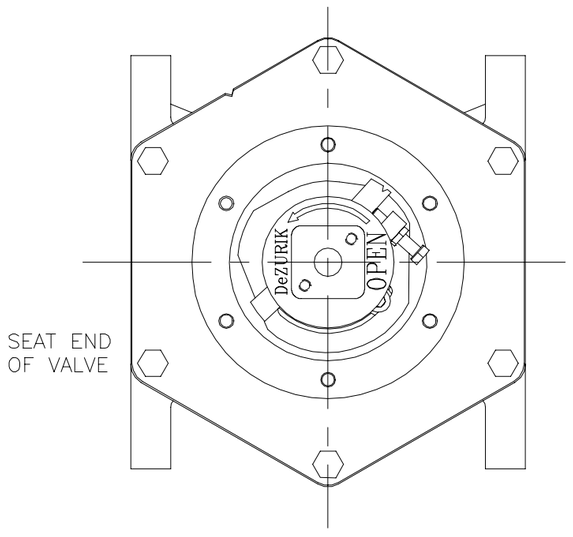
A	VALVE
B	ACTUATOR

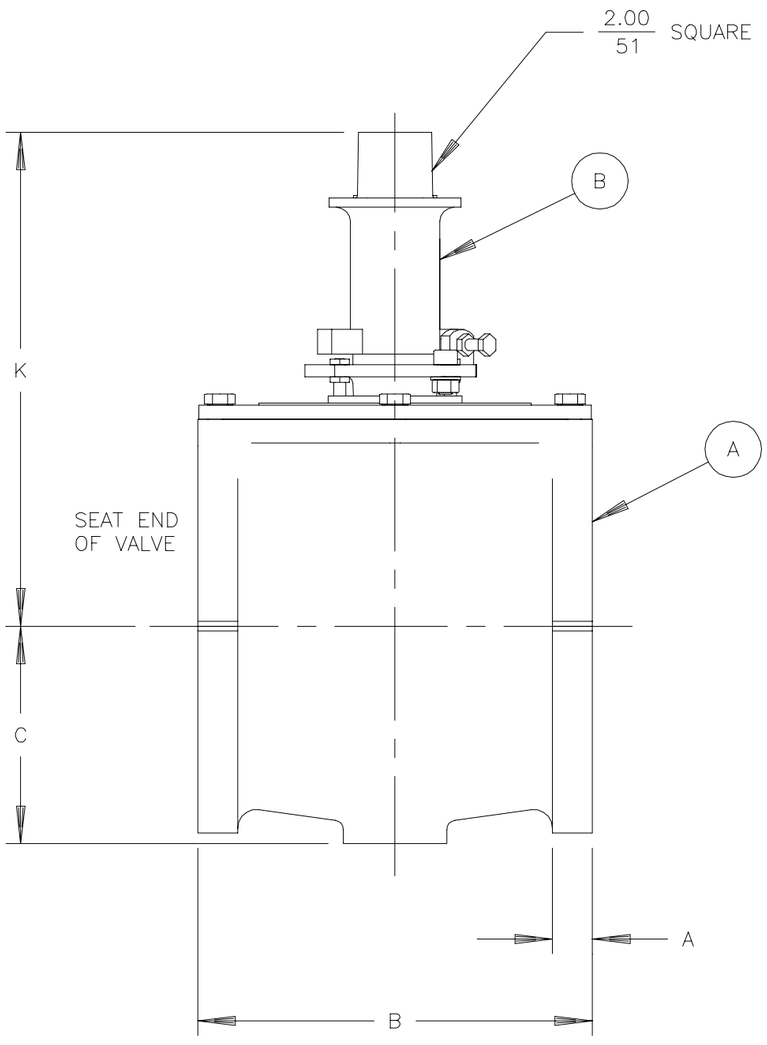
NOTE:

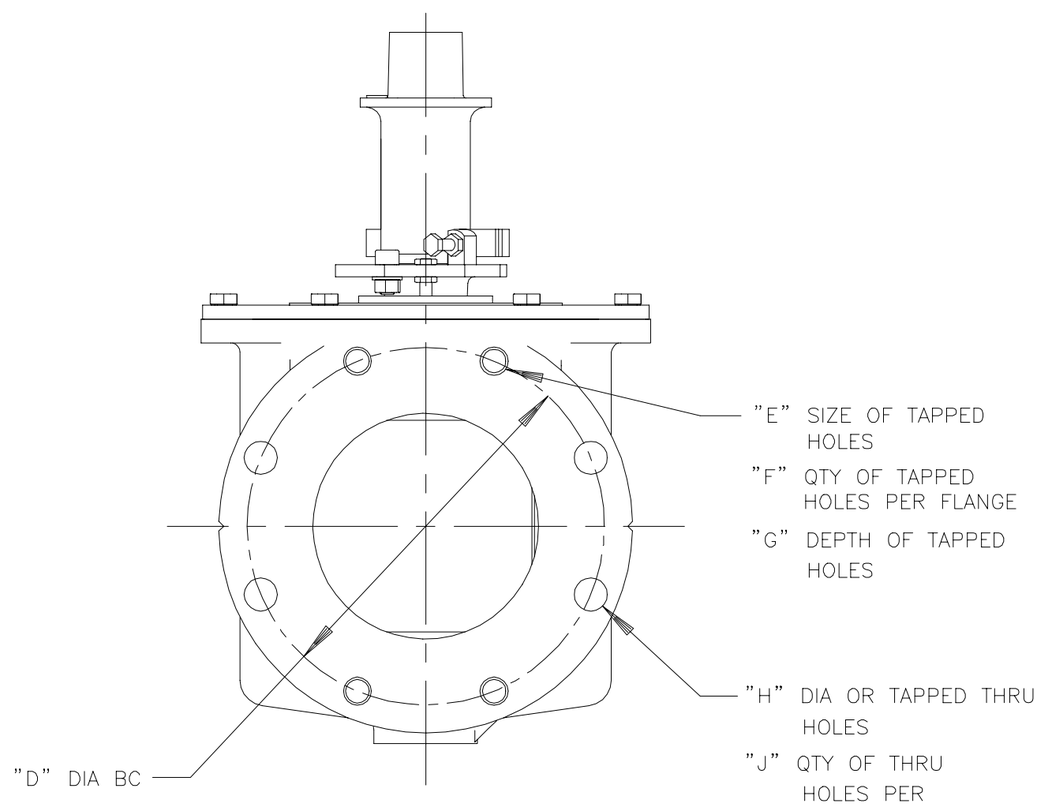
1. FLANGES ARE FLAT FACED WITH THICKNESS, DIAMETER AND DRILLING TO CLASS 125 ANSI STANDARD B16.1, EXCEPT FOR TAPPED HOLES AS INDICATED. SEE A55467 FOR NON–ANSI FLANGE DATA.

NOTICE

THIS DRAWING DOES NOT SHOW ACTUATOR ACCESSORIES. IF ACCESSORIES ARE REQUIRED, REFER TO THE APPROPRIATE ACCESSORY INSTALLATION DRAWING FOR DIMENSIONS AND OTHER RELATED INFORMATION.







G	F	E	D	C	B	A	61483 03/14/07

SARTELL Valves, Inc.
DeZURIK Water Controls
Sartell, MN USA 56377–2129
www.sartellvalves.com

PEF 100% PORT ECCENTRIC VALVES SIZE 3 – 8 FLANGED NT NUT ACTUATED

DOCT. CODE	DRAWN	APPROVED	
C1	TC	SN	A55493
	CHECKED SN	DATE 10/18/05	

RADIUS EW SERIES ELECTRIC ACTUATORS

- Radius designs and produces high quality actuators, accessories and services related to valve automation.
- The sturdy construction of the Radius electric actuator provides reliable performance and the ability to fully integrate into the most sophisticated control systems.
- Compact and robust construction, light weight, high output torque (Max 79,500 in. lbs.).
- Wide range of torque variation (From min 880 in. lbs. ~ to max 79,500 in. lbs.).
- Hard anodized aluminum housing inside and outside with external powder coating to protect against severe industrial environment.
- Enclosure using radial seals & O-rings that provide protection to waterproof IP67: standard (NEMA 4, 4X & 6), IP68 (NEMA 4, 4X & 6P), and explosion proof enclosures: optional
- Mounting base according to ISO 5211 standard.
- Removable drive bushing, factory machined. (Custom machining available)
- Self-locking double worm gearing (no brake required).
- Auto-declutchable manual override handwheel with padlockable auto / manual switchable lever.
- Reliable mechanical torque sensing system providing safe operation in overload condition.
- Large size window and indicator provides for better position indication from a distance.
- Various Local Position control options providing for easy commissioning and operation in field.



CONSTRUCTION

Housing- Hard anodized aluminum casting and external epoxy powder coated for protection against severe industrial environment.

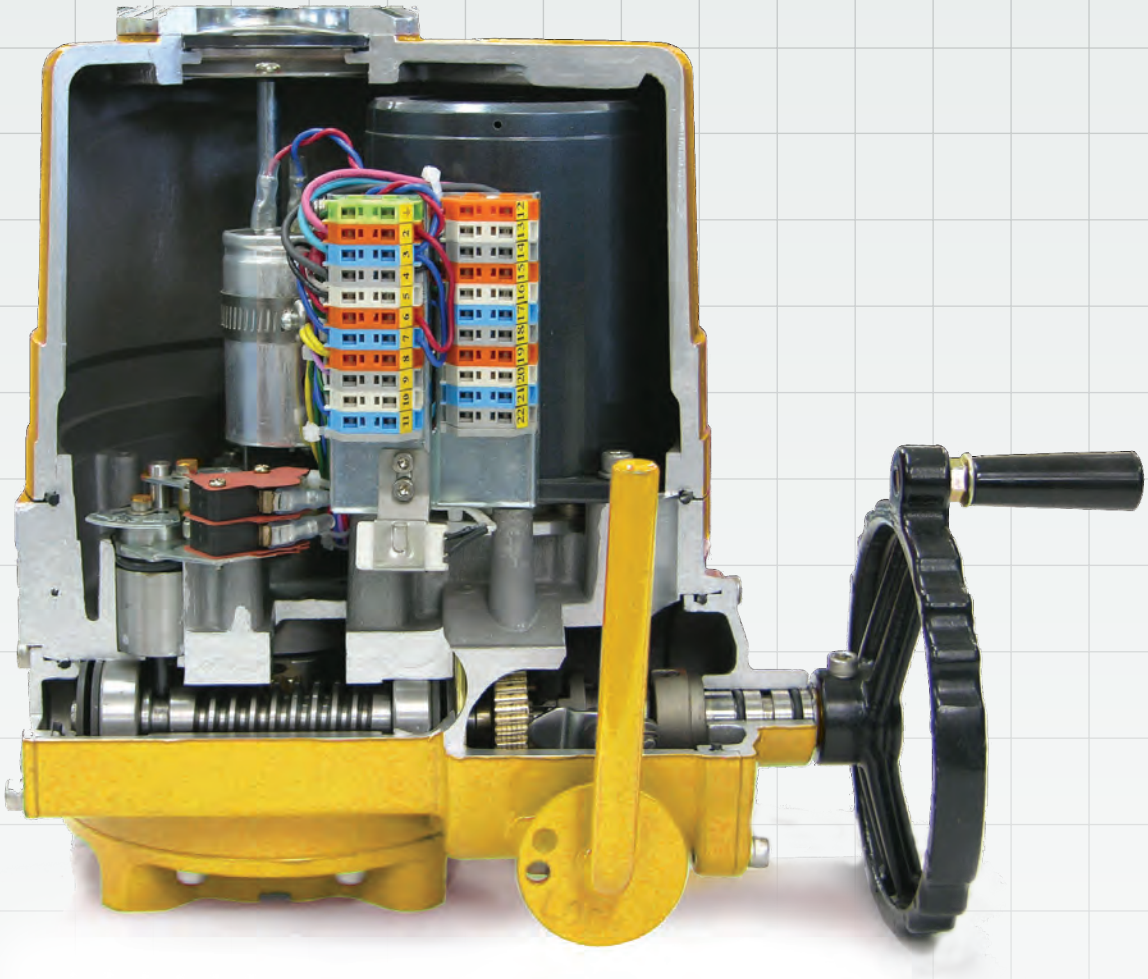
Gearing- Precisely machined double worm gear eliminates back-lash, and produces high output torque with little or low noise.

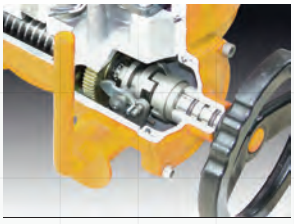
Self locking- Double worm gearing keeps valve position in place against reverse valve torque.

Sealing- IP67 (standard), Enclosure IP68 and Explosion Proof Enclosure. (optional)

Handwheel- Different sizes depending on actuator torque, standard knob on handwheel for easy operation.

Motor- Specially designed induction motor to generate high starting torque and high efficiency equipped with thermal protector to prevent damage from over heating.
• Insulation class F





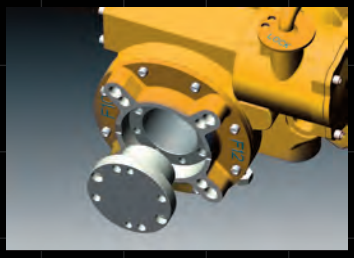
Manual override- Auto / Manual switchable lever and handwheel engagement for emergency manual operation.

Drive force automatically enslated by motor start, unless lever is padlocked to prevent this from occuring.

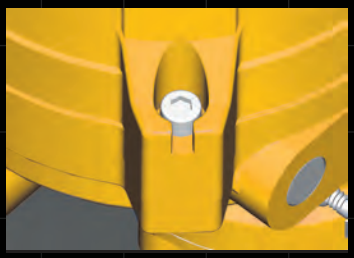
RADIUS EW SERIES SPECIFICATIONS AND OPTIONS



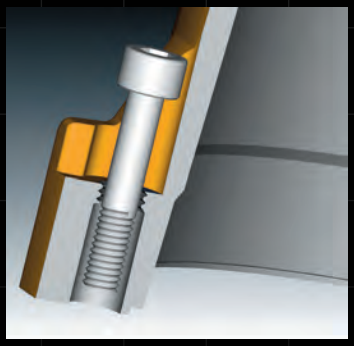
External mechanical travel stops- Prevents over run of travel angle when limit switch fails.



Removable drive bushing and ISO 5211 mounting base (F07~F16) for easy mounting on valve. Standard factory machined ISO output. Custom machining available.



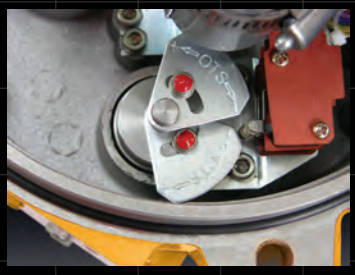
Captive cover bolts. All external bolts are stainless steel for rust prevention.



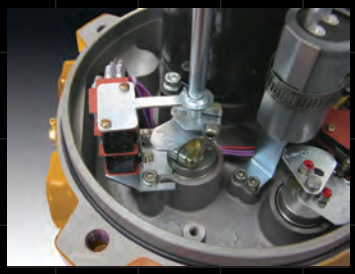
Tapered interface between cover and lower housing. Standard: Short interface for providing easier access to internal components Explosion proof : Long interface for preventing external flame path.



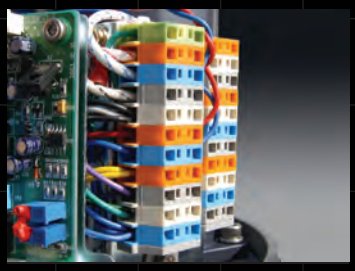
1) Standard Cover
2) Explosion Proof Cover



Torque switches - Protect actuator from damage caused by overload from the driven valve over the entire travel. 1 each for open / close



Limit switches - Directly engaged with driving shaft to set accurate position of valve. 2 ea for each travel end. (open/close) Two auxiliary limit switches. (Standard with most models)



Terminal Strip - spring loaded push type terminal for tight wiring connection under severe vibration.



Space Heater- Anti-condensation (Standard on all units)



Indicator - Continuous mechanical position indicator window with dial.





OPTIONAL MOTOR CONTROLS AVAILABLE

- Local/Remote Stations
- Battery Back Up Devices
- Reversing Electrical Contactors
- Transformers
- Phase Detectors
- Local Lamp Indication
- LCD Displays

Consult Separate Radius Motor Control Options Bulletins

BASIC EW SERIES ACTUATOR OPTIONS												
Model No.	1Ph (110VAC)	1Ph (220VAC)	3Ph (380~440VAC)	DC 24V Motor	24VAC (AC/DC converter)	WT (IP68)	EX	ATS	ALS	PK	CT	RPC
EW880	S	O	O	O	O	O	O		S	O	O	O
EW1400	S	O	O	O	O	O	O	S	S	O	O	O
EW2100	S	O	O	O	O	O	O	S	S	O	O	O
EW3100	S	O	O	O	O	O	O	S	S	O	O	O
EW4400	S	O	O	O	O	O	O	S	S	O	O	O
EW7000	S	O	O			O	O	S	S	O	O	O
EW9700	S	O	O			O	O	S	S	O	O	O
EW17000	S	O	O			O	O	S	S	O	O	O
EW26500	S	O	O			O	O	S	S	O	O	O
EW53000	S	O	O			O	O	S	S	O	O	O
EW79500	S	O	O			O	O	S	S	O	O	O

S - Standard O - Optional

EX – Explosion proof (Ex d II B T4) – Approved by KTL, ATEX (Optional)

WT – Watertight (IP68), Temporary submersible – 33 ft Head 100 hours (Optional)

ALS – Auxiliary limit switches (Max 2 for each travel end) – (1 set standard on all actuators)

ATS – Auxiliary torque switches (Max 2 for each travel end) – (1 set standard on all models excluding for EW880)

EXT – Extended travel angle (up to 120°, 135°, 180°, 270°) – Except for EW with Gear box (Optional)

REMOTE MONITORING AND CONTROL

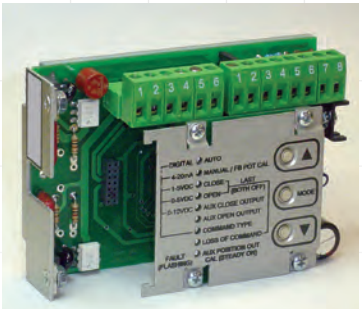
PK – Potentiometer (output signal: 0~1K ohm) High resolution potentiometer and precisely machined gearing are directly engaged with drive shaft to feedback continuous position of valve

CT – Current transmitter (output signal: 4-20mA) Zero/Span Adjustment

RPC – Factory standard remote position controller (by input and output signal) Input: 4-20mA, 0-10VDC, 2~10VDC, 1~5VDC,

0~5VDC – Output: 4-20mA, 0-10VDC, 2~10VDC, 1~5VDC, 0~5VDC – Auto-calibration – Reverse operating direction

* Other Outboard Control Options Available - Consult Separate Controls Bulletin *



OPTIONAL
Digital High Resolution Controller (DHC-100) for models EW1400 and larger

The Radius DHC-100 is a high performance digital positioner intended to control AC actuators, providing 450 points of resolution with quarter turn actuators ranging from 2 sec to 120 sec and has many automatic advanced features.
The simple three button control is used to configure all parameters the unit needs for a wide variety of applications, and allows the open and closed positions to be easily set for direct or reversing acting without any rewiring. The unit can be configured for various command types (4-20mA, 1-5V, 0-5V, 0-10V, or a digital command) and its default operation upon loss of command. Various option modules are easily plugged into the unit, providing other features such as a position feedback signal (current or voltage), auxiliary switches, fault relay contact, or digital communications. A wide range of data is accessible through a digital communications module, providing additional control or information.

* Other Servo Control boards are available - please consult the factory. *

Note: Radius reserves the right to make technical and/or dimensional changes without prior notice

TECHNICAL INFORMATION

MODEL	EW880	EW1400	EW2100	EW3100	EW4400	EW7000	EW9700	EW17000	EW26500	EW53000	EW79500
Rated torque (in. lbs.)	880	1400	2100	3100	4400	7000	9700	17000	26500	53000	79500
Operating time (seconds) (VAC)											
50 Hz	21	26	26	31	31	39	39	59	59	178	178
60 Hz	18	22	22	26	26	32	32	50	50	149	149
Max Bore Size (in)											
Key (0)	.87	.98	.98	1.57	1.57	1.89	1.89	2.95	2.95	4.72	4.72
Square (0)	.79	.91	.91	1.34	1.34	1.57	1.57	2.52	2.52	3.94	3.94
Rated Current (A) / Maximum (A)											
1 Phase / 110 V / 50 Hz	0.98/1.38	1.60/2.49	1.62/3.16	1.72/3.16	3.60/5.32	3.90/7.92	3.90/7.92	4.95/12.21	6.10/12.54	4.95/12.21	6.10/12.54
60 Hz	1.10/1.49	1.70/2.62	1.72/3.16	1.80/3.16	3.90/5.44	4.20/7.92	4.30/7.92	4.55/12.10	6.60/12.10	4.55/12.10	6.60/12.10
1 Phase / 220 V / 50 Hz	0.52/0.79	0.85/1.18	0.87/1.52	0.92/1.52	1.50/2.55	2.05/4.14	2.15/4.14	2.95 / 5.15	3.75 / 5.23	2.95 / 5.15	3.75 / 5.23
60 Hz	0.58/0.83	0.90/1.23	0.90/1.51	0.95/1.51	1.60/2.58	2.20/4.07	2.30/4.07	3.15 / 4.96	3.85 / 5.24	3.15 / 4.96	3.85 / 5.24
3 Phase / 380 V / 50 Hz	0.43/0.94	0.30/0.67	0.32/0.85	0.32/0.85	0.52/1.40	0.82/1.94	0.84/1.94	1.50 / 4.18	1.60 / 3.99	1.50 / 4.18	1.60 / 3.99
60 Hz	0.33/0.42	0.30/0.65	0.32/0.82	0.32/0.82	0.56/1.35	0.88/1.85	0.90/1.85	1.80 / 3.81	2.00 / 3.63	1.80 / 3.81	2.00 / 3.63
3 Phase / 440 V / 50 Hz	0.59/1.08	0.30/0.76	0.32/0.97	0.32/0.97	0.55/1.67	0.82/2.12	0.84/2.12	2.30 / 4.41	2.50 / 4.94	2.30 / 4.41	2.50 / 4.94
60 Hz	0.42/0.93	0.32/0.72	0.35/0.91	0.35/0.91	0.58/1.50	0.88/2.07	0.88/2.07	2.20 / 4.11	2.40 / 4.50	2.20 / 4.11	2.40 / 4.50
AC / DC 24 V	2.80/5.33	1.80 / 20	2.40 / 20	3.80 / 24	5.00 / 24	-	-	-	-	-	-
Motor Insulation Class	F	F	F	F	F	F	F	F	F	F	F
ISO 5211 Mounting Flange	F07	F07/F10	F07/F10	F10/F12	F10/F12	F12/F14	F12/F14	F16	F16	F25/F30	F25/F30
Weight (Lbs)	15.43	33.07	33.07	44.09	44.09	55.12	55.12	92.60	92.60	335.10	335.10
No of handwheel turns	10	12	12	14	14	17	17	13	13	39	39

For DC operating time please consult factory

STANDARD SPECIFICATIONS

Enclosure	Weatherproof IP67, NEMA4/4X and 6, O-ring sealed
Main Power supply	110/220VAC/1Ph/50/60Hz, 380/440/VAC/3Ph/50/60/Hz 10%, 24VDC
Control power supply	110/220VAC/1Ph/50/60Hz 10%
Duty cycle(on-off)	S2: 10Min~30Min
Duty cycle(modulating)	S4, 30~50%, 300~1200 start/Hour
Motor	Squirrel Cage induction motor
Limit switches	2 each for Open and Close (SPDT 250VAC/10A rating)
Torque switches	1 each for Open and Close (SPDT 250VAC/10A rating except for EW880)
Stall protection/ set temp.	Built in thermal protection, Open 302°F±41°F, Close 207°F±59°F
Travel angle	90°±5° (0° ~ 100°)
Position indicator	Continuous mechanical indicator with arrow
Manual override	De-clutchable
Self locking	Provided by double worm gearing (no brake)
Mechanical stopper	1 each for each travel end (Open and Close), external & adjustable
Space Heater	5W(110/220VAC) for anti-condensation
Cable entries	2 - PF 3/4" TAP
Lubrication	EP type grease
Terminal block	Screw and Lever Push type (spring loaded)
Ambient temperature	Basic actuator : -4F~+158 °F c/w control options : 14°F~+140°F
Ambient humidity	90%RH Max (Non-Condensing)
Anti vibration	XYZ 10g. 02~34Hz, 30 minutes
External coating	Dry powder (Polyester)

Note: Radius reserves the right to make technical and/or dimensional changes without prior notice

10 Reducer Data

Cyclo® 6000 Speed Reducers

Superior design, powerful performance

- Cyclo® 6000 boasts an expanded range of standard sizes and ratings. Use this chart to select a new Cyclo® 6000 when replacing Cyclo® series 3000 and 4000 models.

CYCLO® Frame Size Cross Reference

OLD		NEW
3000	4000	6000
		6060
3075	4075	6065
		6070
3085	4085	6075
		6080
		6085
3090	4090	6090
3095	4095	6095
3097	4097	6095
3100	4100	6100
3105	4105	6105
310H	410H	610H
		6110
		6115
3110	4110	6120
3115	4115	6125
311H	4125	612H
3140	4130	6130
3145	4135	6135
		6140
3155	4145	6145
315H	415H	614H
3160	4165	6165
3165	416H	616H
316H	4170	6170
3170	4175	6175
3175	4180	6180
3180	4170	6170
3185	4185	6185
3190	4190	6190
3195	4195	6195
3205	4205	6205
3215	4215	6215
3225	4225	6225
3235	4235	6235
3245	4245	6245
3255	4255	6255
3265	4265	6265
3275	4275	6275





- **The Cyclo® 6000 is also available as an inline Gearmotor**

To request a catalog, or for more information on any of our high quality products, please visit our Website:

www.smcylo.com

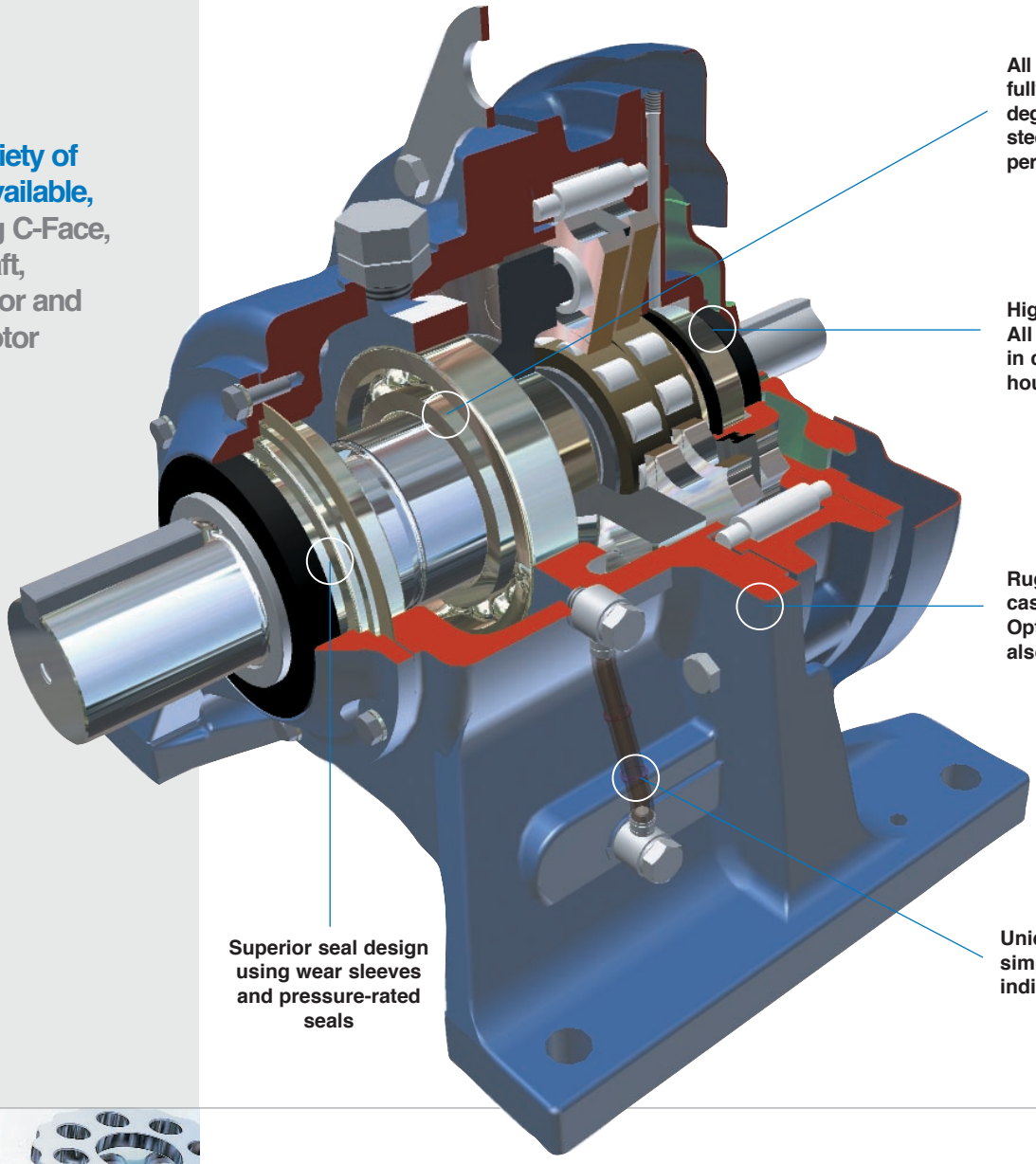
SUMITOMO MACHINERY CORPORATION OF AMERICA

We keep things moving.

Cyclo® 6000

High Torque Density, High Reliability Cycloidal Speed Reducers

- **Wide variety of inputs available,** including C-Face, Free-Shaft, Gearmotor and Brakemotor



All rotating components are fully hardened, vacuum degassed bearing grade steel, for consistent, reliable performance

High power density. All reduction contained in compact ring gear housing

Rugged, shock-resistant cast iron housing. Optional ductile iron also available

Superior seal design using wear sleeves and pressure-rated seals

Unique oil sight gauge for simple, visible lubrication indication



Unmatched Reliability, Exceptional Performance

- Cyclo® speed reducers and gearmotors are **designed to withstand shock loads exceeding 500%** of their ratings

► Sumitomo's Cyclo® 6000 is extremely torque dense and is available as an inline speed reducer or gearmotor

Product Description

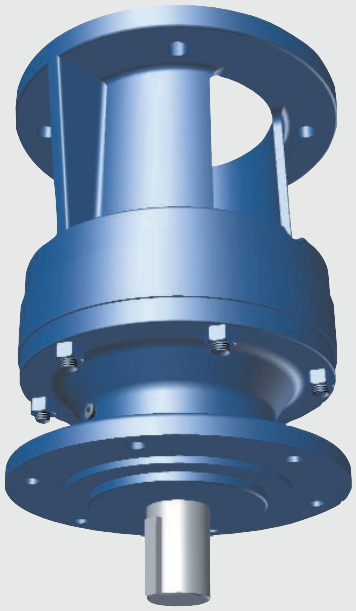
The Sumitomo Cyclo® drive is **unsurpassed by any other inline drive** available in the market today. **Cyclo®'s unique epicyclo-dial design** has advantages superior to speed reducers using common involute tooth gears. Cyclo® components operate in compression, not in shear. Unlike gear teeth with limited contact points, a Cyclo® has two thirds of its reduction components in contact at all times. Cyclo® speed reducers and gearmotors are **designed to withstand shock loads exceeding 500%** of their ratings, and provide exceptional performance, reliability and long life in the most severe applications.

Features & Benefits

- **Highest overload capacity**, exceeding 500%
- **Exceptional life** with a 24 month warranty
- **High efficiency**, even at high reduction ratios
- **Remarkably versatile**, and available as inline speed reducer or gearmotor
- Ideal for **severe, high shock** applications
- Optional grease lubrication for **no maintenance**

Specifications

Sizes:	23 models (5 lbs to 5000 lbs)
Torque Rating:	210 to 603,000 lb in
HP Rating:	.10 to 232 HP
Ratio Range:	3 to 119 (single), 121 to 7569 (double), 8041 to 658,503 (triple)
Mounting:	Foot, Flange, Face Mount
Motor Standards:	NEMA, IEC, JIS, UL, CSA, CE



- Simple, Compact Design
- Rugged Forged Output Shaft
- Many Mounting Styles
- C-Face, Shovel Base & Top Mount Options



► Applications

- Conveyors
- Food Machinery
- Mixers
- Automotive Plants
- Recycling Machines
- Poultry Plants
- Sawmills and Wood Mills
- Wastewater Treatment
- Steel Mills
- Construction Equipment
- Paper Mills
- Processing Plants

FAQs

How do I select a Cyclo speed reducer or gearmotor?
Selection is based on the actual horsepower and/or torque requirements at the output shaft. The Cyclo speed reducer has particularly high efficiencies over a wide range of reduction ratios, which frequently permits the use of reduced input power requirements (smaller HP motor) without sacrificing output shaft torque. The selection procedures in this catalog will guide you in choosing the most efficient reducer for your application.

What information do I need to get started in the selection process?
To select the proper reducer for your application, you will need to know:

• Application: type of driven machine

• Hours of operation per day

• Motor horsepower (HP) and speed (RPM)

• Mounting position

If there are any special environmental factors or operation requirements, they must also be noted. This information will be important in determining the Service Factor of your application.

What are Service Factors and how are they used?
In general, reducers and gearmotors are rated for the specific conditions and operating requirements of the application by the use of AGMA-defined Service Factors. There are three AGMA load classifications for reducers: uniform (U), moderate shock (M) and heavy shock (H) (page 2.3) The Service Factors are used in the product selection process to adjust for the specific conditions and operating requirements of your application.

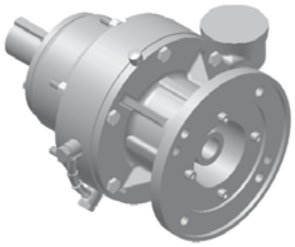
What do I do if my application has particularly severe operating conditions?
The standard ratings for Cyclo are based on 10-hour daily service under conditions of uniform loads (equivalent to AGMA service factor 1.0). By following the product selection process, you will determine and apply the Service Factors to compensate for the severe operating conditions.

How can I be sure that the reducer can withstand periodic excessive overloads?
Cyclo Speed Reducers provide 500% momentary intermittent shock load capacity. For applications with shock loads greater than 500%, consult an SMA Application Engineer.

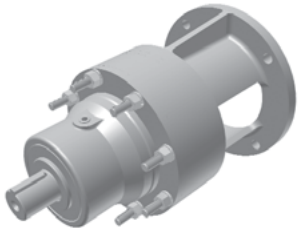
What are the standard input speeds?
In general terms, the speeds are 1750 and 1165 RPM. The selection tables in this catalog are based on 1750, 1165, 870, 580, and 50 RPM. When non-standard input speeds are used, the horsepower and torque ratings also vary.

What thermal capacity limitations does the Cyclo have?
The Cyclo speed reducer, by virtue of its smooth, almost frictionless operation (unlike traditional helical gears), has a thermal rating that far exceeds its mechanical capacity and all but eliminates the conventional limitations due to heat.

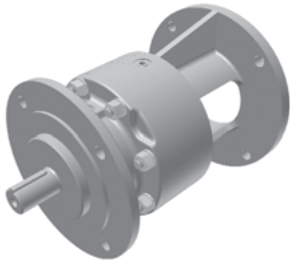
Common Configurations



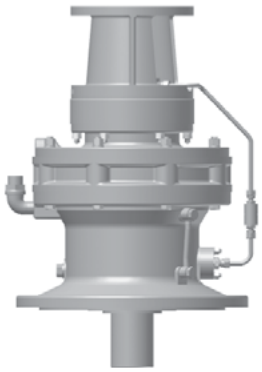
Single Reduction,
Horizontal Flange Mount
with Hollow Shaft Input



Single Reduction, Flange Mount
with C-Face Adapter



Single Reduction, V-Flange Mount
with C-Face Adapter



Double Reduction with
C-Face Adapter

Standard Specifications

Reducer	**Reduction:**	Internal planetary gear mechanism with trochoidal curved tooth profile.
	Lubrication:	Grease or oil lubricated models available.
	Seals:	Nitrile material, dual lipped, double output seals available.
	Material:	Rugged cast iron or ductile housings.
	Paint Color:	Blue, Muenters color number 6.5PB 3.6/8.2

Ambient Conditions	**Installation Location:**	Indoors or Outdoors
	Ambient Temperature:	14°~104° F (-10° ~ 40° C)
	Ambient Humidity:	Under 85%
	Elevation:	Under 3,281 ft. (1000 meters)
	Atmosphere:	Well ventilated location, free of corrosive gases, explosive gases, vapors and dust.

Shaft Rotation

On single reduction Cyclo® speed reducers, ratios 3 through 119, the slow speed shaft rotates in a reverse direction to that of the high speed shaft.

On double reduction units, ratios 104 through 7569, both the high speed and the slow speed shaft rotate in the same direction.

Input Speeds

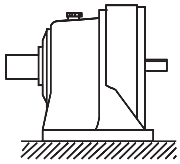
In general terms, the standard input speeds of single reduction units are 1750, 1165, 875, 580, and 50 RPM. When non-standard input speeds are used, the horsepower and torque ratings will also vary.

Thermal Capacity

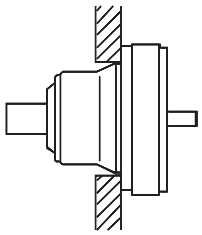
The Cyclo® speed reducer's smooth, almost frictionless operation all but eliminates the conventional limitations due to heat. In all sizes, Cyclo® speed reducers have thermal ratings that exceed their mechanical capacity.

Housing Styles & Mounting Positions

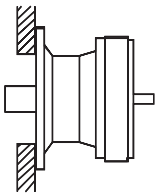
CHH (CNH)



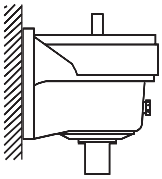
CHF (CNF)



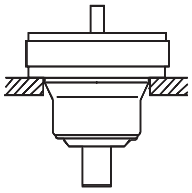
CHV (CNV)



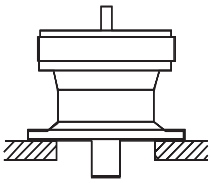
CVH (CNH)



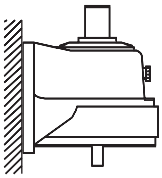
CVF (CNF)



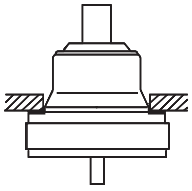
CVV (CNV)



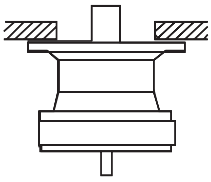
CWH (CNH)



CWF (CNF)

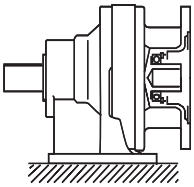


CWV (CNV)

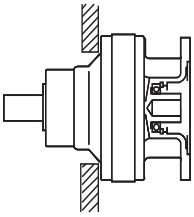


Input Side Hollow Shaft

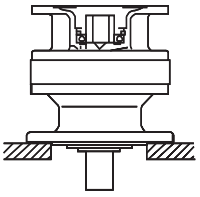
CHHX (CNHX)



CHFX (CNFX)

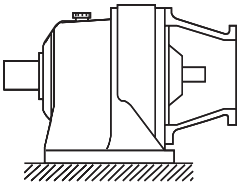


CVVX (CNVX)

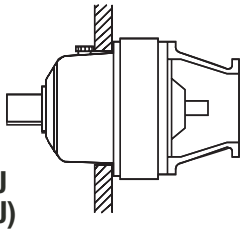


With Adaptor

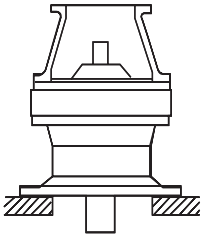
CHHJ (CNHJ)



CHFJ (CNFJ)



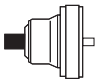
CVVJ (CNVJ)



Configure a Model Number

Output Shaft Orientation

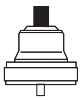
Type	Prefix
Horizontal	H
Vertical	V
Vertical Up (Solid Shaft)	W
Universal Direction	N



H



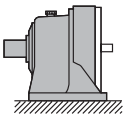
V



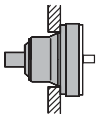
W

Housing Style

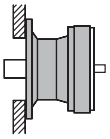
Type	Prefix
Foot	H
Flange	F
V-Flange	V



H
Foot



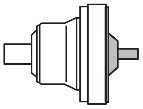
F
Flange



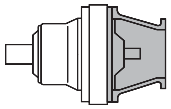
V
V Flange

Input Connection

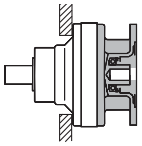
Input Connection	Prefix
None	-
C-Face Adaptor	J
Hollow Input Shaft	X



No Symbol
Reducers



J
With Adapter



X
Hollow Shaft

Modification (Special)

	Prefix
Special	S
Standard	–

Frame Size (from Selection Tables)

Shaft Specifications

Input Shaft	Suffix
Inch	Y
DIN	G
Metric DIN	-

C H H - **6 1 1 5** **Y** [ ] - **29**

Frame size

Ratio

Modification (Special feature)

Input connection

Mounting style

Output shaft orientation

Shaft specification

Cyclo Speed Reducer product code (always "**C**")

The Service Factor table below presents both AGMA standard service factors and Cyclo® service factors. Cyclo® service factors are smaller than AGMA, based on the Cyclo® strength and performance experience.

If your application requires AGMA specified service factors, then the AGMA value should be used. Otherwise, the Cyclo® service factor should be used.

Service Factors

		Load Classifications					
		Uniform		Moderate Shock		Heavy Shock	
Prime Mover	**Service Duration**	AGMA	**Cyclo®**	AGMA	**Cyclo®**	AGMA	**Cyclo®**
Electric Motor	1/2 hr. per day (Occasional)	0.50	**0.50**	0.80	**0.80**	1.25	**1.20**
	3 hrs. per day (Intermittent)	0.80	**0.80**	1.00	**1.00**	1.50	**1.35**
	Up to 10 hrs. per day	1.00	**1.00**	1.25	**1.20**	1.75	**1.50**
	24 hrs. per day	1.25	**1.20**	1.50	**1.35**	2.00	**1.60**
Multi Cylinder Internal Combustion Engine	1/2 hr. per day (Occasional)	0.80	**0.80**	1.00	**1.00**	1.50	**1.35**
	3 hrs. per day (Intermittent)	1.00	**1.00**	1.25	**1.20**	1.75	**1.50**
	Up to 10 hrs. per day	1.25	**1.20**	1.50	**1.35**	2.00	**1.60**
	24 hrs. per day	1.50	**1.35**	1.75	**1.50**	2.25	**1.70**
Single Cylinder Internal Combustion Engine	1/2 hr. per day (Occasional)	1.00	**1.00**	1.25	**1.20**	1.75	**1.50**
	3 hrs. per day (Intermittent)	1.25	**1.20**	1.50	**1.35**	2.00	**1.60**
	Up to 10 hrs. per day	1.50	**1.35**	1.75	**1.50**	2.25	**1.70**
	24 hrs. per day	1.75	**1.50**	2.00	**1.60**	2.50	**1.80**

Determine Selection Horsepower (HP)

Motor HP X Service Factor = Selection HP

Example: 10 Motor HP X 1.25 Service Factor = 12.5 Selection HP

Select a Frame Size

1 Match your OUTPUT RPM (or RATIO)...

Output RPM / Ratio	583 / 3	350 / 5	292 / 6	219 / 8	159 / 11	135 / 13	117 / 15	103 / 17	83.3 / 21	FRAME SIZE
Input HP	20.2	20.2	20.3	20.3	20.3	20.3	20.3	16.1	14.6	6145 614H
Output Torque in•lbs	2051	3469		5560	7650	9030	10300	9370	10500	
Overhung Load (lbs)	1554	1843		2170	2430	2470	2550	2710	2890	
Input HP	27.2	27.2		26.4	26.4	26.4	25.1	17.6	17.3	6160
Output Torque in•lbs	2798	4654		7230	9900	11800	12900	10200	12400	
Overhung Load (lbs)	1702	2019						3520	3350	
Input HP	32.3	32.3						2	21.6	6165 616H
Output Torque in•lbs	3322	5530						00	15500	
Overhung Load (lbs)	1686	1998						30	3310	
Input HP	37.0	37.0	37.0					4	26.2	6170
Output Torque in•lbs	3796	6335								
Overhung Load (lbs)	1906	2261	2400					00	3750	
Input HP	40.4	40.4	40.4					.3	32.3	6175
Output Torque in•lbs	4141	6914	8290					00	23200	
Overhung Load (lbs)	1906	2261	2400	2620	3020	3130	3240	3440	3680	
Input HP	–	–	–		47.2	47.2	43.5	41.1	40.3	6180
Output Torque in•lbs	–	–	–	–	17800	21000	22300	23800	28900	
Overhung Load (lbs)	–	–	–	–	4030	4210	4430	4670	5030	
Input HP	–	–	–		52.3	52.3	52.3	52.3	52.3	6185
Output Torque in•lbs	–	–	–	–	19600	22300	26800	30500	37600	

2 ...to your SELECTION HP...

3 ...to find your FRAME SIZE

If Overhung or Axial Load are present, any Overhung or Axial Load must be checked against the capacity of the selection.

For special circumstances in selecting a **Frame Size** such as:

- Overhung Load
- Axial Loads
- Shock Loading

Consult Technical Information, pages 5.6–5.13.

How to Select

Nomenclature

Example

CNV – 6125Y – 29

C – Cyclo 6000
N– Universal
V– V-Flange

6125 – Frame Sizen
Y – Inch Shaft
29 – Ratio

Nominal Total Ratio

Ratio

Ratio is found here in Selection Tables

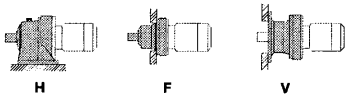
Output RPM	580	350	290	219	159	135	117	103	83.3	FRAME SIZE
Ratio	3	5	6	8	11	13	15	17	21	
Input HP	20.2	20.2	20.3	20.3	20.3	20.3	20.0	18.1	14.8	6145 6145N
Output Torque in-lbs	2081	3469	4170	5560	7650	9030	10000	9370	10500	
Overhung Load (lbs)	1554	1843	1960	2170	2430	2470	2580	2710	2880	
Input HP	27.2	27.2	27.2	26.4	26.4	26.4	25.1	17.6	17.3	6160
Output Torque in-lbs	2796	4654	5580	7230	9900	11800	12900	10200	12400	
Overhung Load (lbs)	1702	2019	2150	2400	2690	2900	3000	2150	3350	
Input HP	32.3	32.3	32.3	32.3	32.3	30.3	30.3	25.2	21.6	6165 6165N
Output Torque in-lbs	3322	5530	6610	8850	12200	13500	15500	14700	15500	
Overhung Load (lbs)	1686	1998	2130	2360	2670	2760	2950	3060	3310	
Input HP	37.0	37.0	37.0	37.0	37.0	36.6	34.2	26.4	26.2	6170
Output Torque in-lbs	3796	6335	7600	10100	13900	16300	17500	15300	18700	
Overhung Load (lbs)	1906	2261	2400	2650	3040	3150	3280	3460	3750	
Input HP	40.4	40.4	40.4	40.4	40.4	40.4	40.4	32.3	32.3	6175
Output Torque in-lbs	4141	6914	8290	11000	15200	18000	20700	18700	23200	
Overhung Load (lbs)	1906	2261	2400	2620	3020	3130	3240	3440	3680	
Input HP	-	-	-	-	47.2	47.2	43.5	41.1	40.3	6180
Output Torque in-lbs	-	-	-	-	17800	21000	22300	23800	28900	
Overhung Load (lbs)	-	-	-	-	4030	4210	4430	4670	5030	
Input HP	-	-	-		52.3	52.3	52.3	52.3	52.3	

1750 RPM Frame Size Selection Tables

Single Reduction, Ratios 25-119
H, F, V Housing Styles

Dimensions:

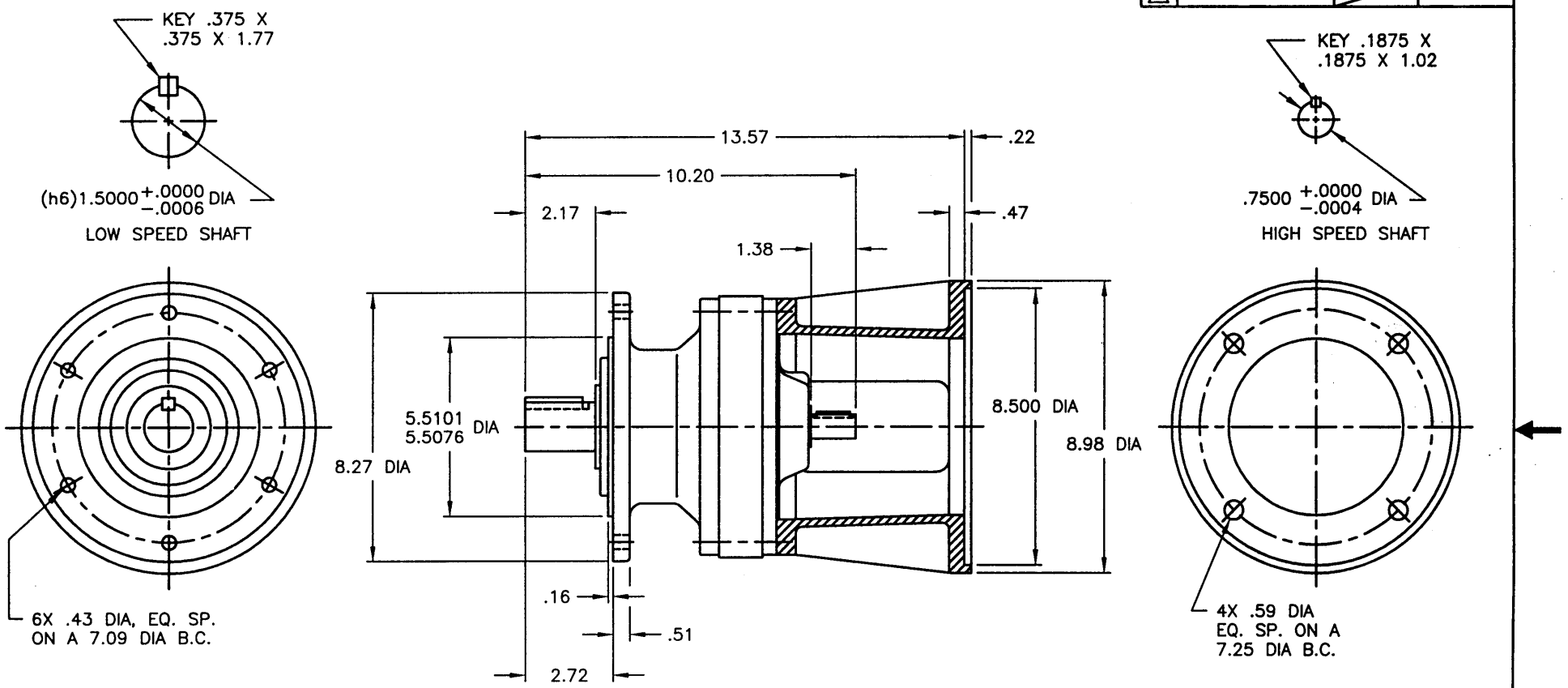
		Pages
Foot Mount	(H)	4.2–4.15
F-Flange	(F)	4.30–4.38
V-Flange	(V)	4.48–4.64



Output RPM / Ratio	70.0 / 25	60.3 / 29	50.0 / 35	40.7 / 43	34.3 / 51	29.7 / 59	24.6 / 71	20.1 / 87	14.7 / 119	FRAME SIZE
Input HP	**0.15**	**0.15**	**0.15**	**0.12**	-	-	-	-	-	
Output Torque (in•lbs)	127	146	177	178	-	-	-	-	-	**6060**
Overhung Load (lbs)	265	265	265	265	-	-	-	-	-	
Input HP	**0.22**	**0.22**	**0.19**	**0.15**	-	-	-	-	-	
Output Torque in•lbs	190	220	230	223	-	-	-	-	-	**6065**
Overhung Load (lbs)	265	265	265	265	-	-	-	-	-	
Input HP	**0.31**	**0.30**	**0.28**	**0.23**	**0.13**	**0.13**	-	-	-	
Output Torque in•lbs	264	301	339	334	233	271	-	-	-	**6070**
Overhung Load (lbs)	397	397	397	397	397	397	-	-	-	
Input HP	**0.40**	**0.38**	**0.37**	**0.30**	**0.19**	**0.18**	-	-	-	
Output Torque in•lbs	337	380	448	446	335	367	-	-	-	**6075**
Overhung Load (lbs)	397	397	397	397	397	397	-	-	-	
Input HP	**0.46**	**0.46**	**0.44**	**0.34**	**0.26**	**0.25**	**0.16**	**0.12**	-	
Output Torque in•lbs	391	452	527	493	450	500	391	359	-	**6080**
Overhung Load (lbs)	569	575	575	575	575	575	575	575	-	
Input HP	**0.64**	**0.63**	**0.49**	**0.40**	**0.32**	**0.31**	**0.25**	**0.16**	-	
Output Torque in•lbs	544	621	595	580	563	632	609	484	-	**6085**
Overhung Load (lbs)	562	573	575	575	575	575	571	575	-	
Input HP	**0.90**	**0.84**	**0.82**	**0.58**	**0.45**	**0.42**	**0.34**	**0.28**	**0.17**	
Output Torque in•lbs	769	832	981	858	776	836	819	843	682	**6090**
Overhung Load (lbs)	750	750	750	750	750	750	750	750	750	
Input HP	**1.16**	**1.05**	**1.02**	**0.81**	**0.57**	**0.50**	**0.40**	**0.40**	**0.20**	
Output Torque in•lbs	990	1040	1220	1190	990	1010	981	1210	823	**6095**
Overhung Load (lbs)	750	750	745	750	750	750	750	750	750	
Input HP	**1.70**	**1.62**	**1.31**	**1.05**	**0.75**	**0.69**	**0.59**	**0.58**	**0.28**	
Output Torque in•lbs	1460	1610	1560	1540	1310	1400	1410	1730	1150	**6100**
Overhung Load (lbs)	1210	1210	1210	1210	1210	1210	1210	1210	1210	
Input HP	**2.24**	**2.13**	**1.61**	**1.45**	**1.04**	**0.95**	**0.75**	**0.76**	**0.38**	
Output Torque in•lbs	1920	2120	1920	2140	1810	1920	1830	2260	1560	**6105 610H**
Overhung Load (lbs)	1210	1210	1210	1210	1210	1210	1210	1210	1210	
Input HP	**2.56**	**2.55**	**2.01**	**1.74**	**1.27**	**1.15**	**0.90**	**0.89**	-	
Output Torque in•lbs	2200	2530	2410	2570	2200	2330	2180	2640	-	**6110**
Overhung Load (lbs)	1500	1540	1650	1710	1710	1710	1710	1710	-	
Input HP	**2.98**	**2.98**	**2.43**	**2.04**	**1.49**	**1.36**	**1.02**	**1.02**	-	
Output Torque in•lbs	2550	2950	2900	2990	2600	2730	2470	3030	-	**6115**
Overhung Load (lbs)	1490	1530	1640	1710	1710	1710	1710	1710	-	
Input HP	**4.15**	**4.01**	**3.34**	**2.56**	**2.31**	**1.74**	**1.28**	**1.27**	-	
Output Torque in•lbs	3540	3980	4010	3780	4020	3530	3120	3770	-	**6120**
Overhung Load (lbs)	1790	1860	1980	2120	2200	2200	2200	2200	-	
Input HP	**5.32**	**5.06**	**4.27**	**3.19**	**3.06**	**2.17**	**1.61**	**1.52**	-	
Output Torque in•lbs	4540	5010	5100	4700	5330	4380	3910	4510	-	**6125 612H**
Overhung Load (lbs)	1770	1840	1950	2100	2190	2200	2200	2200	-	
Input HP	**6.93**	**6.01**	**4.98**	**4.01**	**3.41**	**2.94**	**2.46**	**1.91**	-	
Output Torque in•lbs	5920	5960	5950	5910	5950	5920	5960	5660	-	**6130**
Overhung Load (lbs)	2050	2160	2290	2470	2580	2710	2890	3130	-	
Input HP	**7.99**	**7.57**	**5.70**	**5.06**	**3.93**	**3.38**	**2.91**	**2.56**	-	
Output Torque in•lbs	6820	7500	6820	7430	6860	6830	7070	7620	-	**6135**
Overhung Load (lbs)	2030	2130	2270	2430	2560	2690	2870	3110	-	
Input HP	**9.25**	**7.99**	**6.99**	**5.29**	**4.60**	**3.97**	**3.26**	**2.66**	-	
Output Torque in•lbs	7900	7920	8360	7780	8020	8010	7920	7900	-	**6140**
Overhung Load (lbs)	3090	3150	3400	3550	3590	3590	3590	3590	-	

DRAWING NO.	SH	REV
CZOL0649		

REVISION			
REV NO	DESCRIPTION	BY / CHK	APPROVAL DATE
△			



CERTIFIED DIMENSION DRAWING	
FOR	
CERTIFIED BY	
P/O NUMBER	
P/O NUMBER	
MODEL	
RATIO	
DATE	

SUMITOMO MACHINERY CORP. OF AMERICA
4200 HOLLAND BLVD., CHESAPEAKE, VA. 23323

1. LUBRICATION: GREASE
2. MOTOR ADAPTOR FOR NEMA FRAME(S) 182~184TC.

DIMENSIONS ARE IN INCHES
~~DIMENSIONS ARE IN MILLIMETERS~~
THIRD ANGLE PROJECTION
REFER TO ENGINEERING SPEC. EG90015 FOR MANUFACTURING NOTES AND TOLERANCES NOT LISTED ON THIS DRAWING

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TITLE
SM-CYCLO SPEED REDUCER
OUTLINE DIMENSIONS
MODEL: CNVJ-411(0,5)Y, 4125Y, 612(0,5)Y

DRAWN	ALH	DATE 2/28/01	SCALE .333=1 PL/NO.
DESIGNED		DATE	DRAWING NO. CZOL0649 REV.
CHECKED	JDG	DATE 3/8/01	
APPROVED	S.O	DATE 3/9/01	SHEET 1 OF 1

11 Electrical

Franklin Miller, Inc.

SR30-SRH Controller Module Specification

file: *MODULE SPEC SR30 SYSTEM03.DOCX*

Hauler Station Controller with Data Collection

Controller: The controller shall completely sequence the operation of the grinder, auger, and plug valve and collect transaction data.

Enclosure type: The enclosure shall be NEMA 12 Steel as standard. A provision shall be made within the enclosure for connection of a grounding cable. The enclosures shall be fabricated of NEMA 12 Steel, and shall be suitable for wall mounting. Doors shall have corrosion-resistant hinges and latches. The enclosure shall house the control devices, relays, terminal blocks and reversing motor starters.

This specification is organized as follows:

FEATURES

1. Disconnect
2. Motor starter
3. Control circuit
4. Operator control
5. Indicating lights
6. Remote I/Os
7. Instrumentation
8. UL/cUL listed
9. Motor Capacity

COMPONENTS

2. Operator Interface
3. Control Devices
4. Motor Starters

SAFETY FEATURES

1. E-Stop
2. Remote E-Stop
3. Tank Cover Safety Interlock
4. Auger compaction zone cover Interlock

MODULAS OF OPERATION

1. Grinder operation.
2. Auger operation
3. Plug valve operation
4. System Start Sequence
5. Auto-clear cycle (for both the Grinder and Auger – reversing sequence)
6. Alarm Condition for both grinder and auger
7. Auto Clean Cycle Sequence

7a. Auto Wash Cycle Sequence

8. Solenoid valve operation.
9. OIT Display
10. Automatic operation with data collection system
11. Card reader
12. Printer
13. Flow meter
14. Tank Auger ultra-sonic sensor
15. pH sensor/transmitter
16. Cold Weather Protection

FEATURES

The controller shall contain the following features.

1. Disconnect: The primary feeder cables entering the controller enclosure shall be disconnected from the internal wiring of the controller with a device that has a through-the door operating means. The mechanism shall have a provision for locking the disconnect in the open position.

2. Motor starter: Reversing starters having both mechanical and electrical interlocks shall be provided for the Grinder. The starter size shall be based on IEC requirements for the motor horsepower.

   Motor overload relays shall be furnished as part of each motor starting equipment.

   Output terminal blocks shall be provided for connection of the motor leads exiting the enclosure.

3. Control circuit:

Voltage: Nominally 120V with other levels determined by the requirements of the PLC and other control items supplied as part of the controller.

If DC voltage is required, an adequately sized source of DC power must be provided within the controller.

Transformer: Ungrounded primary and secondary side leads shall be fuse protected. The control transformer shall be sized to carry the control-circuit load; including the plug valve actuator, solenoid valve coils, motor space heaters, and any other 120/1 powered accessories; plus a minimum of 20% spare capacity for future load growth.

4. Operator control:

A key-operated, two-position GRINDER “MAINTENANCE-REMOTE” selector switch shall be provided on the front cover.

A key-operated, two-position AUGER “MAINTENANCE - REMOTE” selector switch shall be provided on the front cover.

A key-operated, three position PLUG VALVE ”OPEN/CLOSE/REMOTE” selector switch shall be provided on the front cover.

5. Indicating lights:

A green “GRINDER RUN” pilot light

A green “AUGER RUN” pilot light

A green “PLUG VALVE OPEN” indicating light

A red “FAIL” indicating light

6. Remote I/Os: The following inputs and outputs shall be supplied. Wiring shall be complete from the PLC to terminal blocks.

Grinder Run status.

Auger Run status.

Fail status.

Remote E-stop.

Maintained-contact tank cover safety interlock switch

Motor over temperature wires (X-proof motors) for both the grinder and auger.

Low temperature freeze protection.

OIT for PLC messages & prompts to the septage haulers and for plant personal to enter hauler data into the PLC (activate & deactivate haulers).

7. Instrumentation

Current sensor: One phase shall be monitored for a high current condition for the Grinder with a current sensor and current relay.

Magnetic flow meter shall be powered from the control and the flow data stored in PLC.

Motor operated plug valve shall be powered and controlled.

Limit switches (part of motor operated plug valve). CLS (Closed Limit Switch) & OLS (Open Limit Switch)

Anti-Condensation heater (part of motor operated plug valve, 5W @ 120V.

Anti-Condensation heater in panel, 100W @ 120V with thermostat in both Hauler Station and Main Control Panel

Phase Monitor- to monitor incoming voltage & protect the equipment from both low and high Voltage and loss of a phase.

8. Certification/Listing

The control shall be a 508 “UL/cUL” listed industrial control panel.

COMPONENTS

1. Operator Interface

a. The operator interface shall display grinder and auger run times, elapsed times, reversals, stalls, motor overloads and over temperature occurrences.

b. The operator interface shall display Fail MESSAGES, Service Reminder and Operational Messages (module 9).

c. Operator interface function keys shall select the following displays: Date and Time, Real Time Data, and System Monitor.

d. Operator interface shall display real time data (while processing an order): Volume (in gallons), Tank Level (in inches).

e. The auger stop sequence shall be programmable. Settings shall be entered at the operator interface using panel keys to enter a desired stop sequence time.

2. Control Devices

a. Pilot devices shall be mounted on the enclosure front panel door.

b. Indicator lights shall be LED type pilot lights. Lights and the selector switches shall be heavy duty NEMA 4X type.

c. Control transformer shall be protected by two primary fuses and one secondary fuse.

d. Relay contacts shall be included for Grinder Run, Auger Run and Fail (common) signal outputs. The contacts shall be rated 10 amp, 240 V resistive load.

3. Motor Starters

a. Starter shall be a full-voltage reversing type with 120 volt operating coils.

b. Forward and reverse contactors on the starters shall have both mechanical and electrical interlocks.

c. Overload relays (OL) shall be adjustable so that the range selected includes the full load amperes (FLA) rating and service factor. The overload shall be auto resetting.

4. VFD

Auger motor will be controlled using the frequency, speed, and current by the VFD. VFD will give a fault code to the PLC when the Auger is tripped or overloaded. The PLC will start, stop, and control direction of rotation for the VFD.

Module 1: **Grinder Operation**

A key-operated, two-position GRINDER “MAINTENANCE-REMOTE” selector switch shall control the operation.

A GRINDER RUN indicating pilot light shall be illuminated when the motor is energized.

Maintenance: The key must be inserted in this position. The grinder shall start when the START button is touched and stop when the STOP button is touched on the OIT display.

Remote: The key can be removed in this position. The grinder shall run under control of the PLC.

Operation: The Grinder “reverse” motor starter coil shall be energized. The Grinder rotates in that direction for a period of two seconds (adjustable) and the reverse coil is then de-energized. After a delay of (2) seconds (adjustable) to allow the Grinder to coast to a stop, the “forward” motor starter coil is energized and the Grinder runs in that direction.

Reset: The Grinder Alarm shall only be reset by holding the OIT display STOP button for five (5) continuous seconds. See module (9) for alarm conditions description.

Module 2 **Auger Operation:**

A key-operated, two-position AUGER “MAINTENANCE-REMOTE” selector switch shall control the operation.

AUGER RUN indicating pilot light shall be illuminated when the motor is energized.

Maintenance: The key must be inserted in this position. The auger shall start when the START button is touched and stop when the STOP button is touched on the OIT display. Door/cover safety Interlocks will be ignored to allow Maintenance to be performed.

Remote: The key can be removed in this position. The auger shall run under the control of the PLC.

Operation: The Auger “forward” rotation is energized and the Auger runs in that direction. When de-energizing the auger motor it will complete the following sequence: Motor de-energized, after a (2) second delay (adjustable), to allow the equipment to coast to a stop, the “reverse” rotation shall be energized. The auger rotates in the reverse direction for (0.5) second (adjustable 0 – 5s range) and is then de-energized.

Reset: The auger alarm shall only be reset by holding the OIT display STOP button for five (5) continuous seconds.

Module 3 **Plug valve:**

A key-operated, three position PLUG VALVE “REMOTE-CLOSE-OPEN” selector switch shall be provided on the front cover. Its function is as follows:

Open (Maintenance): The key must be inserted to move to this position. When in this position, the plug valve shall open.

PLUG VALVE OPEN pilot light shall be illuminated when the closed limit switch is NOT activated.

Operation: Placing the Plug Valve selector switch in the Open position causes the motor operated valve to move in the open direction. It stops when the “open” limit switch is tripped or the signal is interrupted.

Close: The key must be inserted move to this position. When in this position, the plug valve shall close.

Operation: Placing the switch in the Close position causes the valve to move in the closing direction. It shall stop when the “closed” limit switch is tripped or the signal is interrupted.

Remote: The key may be removed in this position. The plug valve will open, close and modulate flow as controlled by the PLC using a 4-20mA analog signal from the ultrasonic level transducer and flow meter.

Operation: The plug valve will limit the flow into the Septage Receiving Station to the “MAX FLOW” value (Factory set to 350 GPM) (User adjustable 300 – 400 GPM range).

If at any time the grinder or the auger reversal counter has a value greater than (0) the plug valve will be moved to the closed position. It will be modulated (see Table 1) to the open position when the counter is reset to (0).

The following parameters shall be user adjustable:

1. “TIME FOR FULL OPEN” of the plug valve

2. “# OF INCREMENTS” of the “TIME FOR FULL OPEN” value that shall be used to determine the power pulse duration according to the following. PULSE = (TIME FOR FULL OPEN (Factory preset to 26 sec / # OF INCREMENTS (Factory preset to 10))

3. “MAX FLOW” value in GPM (Factory set to 400GPM).

The PLC uses the instantaneous reading in the following manner:

Table 1

Instantaneous Flow Volume (Measured GPM) / (Max GPM) x 100	Plug Valve to open signal (only if Valve is not fully open)	Plug Valve to close signal (only if Valve is not closed)
0 - 45%	4 PULSE	0 PULSE

Instantaneous Flow Volume (Measured GPM) / (Max GPM) x 100	Plug Valve to open signal (only if Valve is not fully open)	Plug Valve to close signal (only if Valve is not closed)
>45 - 65%	2 PULSE	0 PULSE
>65 - 85%	1 PULSE	0 PULSE
>115 - 135%	0 PULSE	2 PULSE
>136%	0 PULSE	4 PULSE

4. Level indication effect on plug valve operation per table 2. If, after 120 seconds the level drops below high the normal plug valve modulation (based on flow) will resume.

Table 2

Level	Plug Valve to open signal (only if Valve is not fully open)	Plug Valve to close signal (only if Valve is not closed)
High	0 PULSE	6 PULSE
High-High	0 PULSE	Fully Close

Module 4 **System Starting Sequence for Automatic Operation**

(Note: all operations to occur in the following sequence, each line starting after the previous line is completed)

- Card reader accepts account, Start button active
- Start button touched
- Start transaction timer
- Start monitoring all metrics (Flow, level, amp, pH, etc.)
- The Grinder starting (auto-clear) sequence begins (reverse-pause-forward). This operation is described in Module 1.
- The Auger starts in the forward direction and continues to run. Circuit 1 & 2 water solenoids energized.
- Plug valve is fully opened (energized until the open limit switch is activated).

- Plug valve modulation begins.

Module 4a **System Stopping Sequence for Automatic Operation**

(Note: all operations to occur in the following sequence, each line starting after the previous line is completed)

- Stop button touched
- Stop transaction timer
- Plug valve is fully closed (energized until the closed limit switch is activated).
- Transaction data shall be written to appropriate PLC data registers then a transaction receipt shall be generated by a door mounted printer.
- The grinder motor is de-energized.
- The auto clean cycle is initiated.
- The auto wash cycle is initiated.

Module 5 **Auto-Clear Cycle (for both the Grinder and Auger).**

If the instantaneous current reaches an adjustable set point (factory set to 4X FLA) while running in the forward direction, the motor shall be de-energized. After a delay of two seconds to allow the equipment to coast to a stop, the motor will be energized in the "reverse" direction. After rotating in that direction for a period of two seconds (adjustable) the motor is then de-energized. After a delay of (2) seconds (adjustable) to allow the equipment to coast to a stop, the motor is energized in the "forward" direction.

This automatic auto-clear cycle shall be attempted a total of

Grinder: factory set to three times (adjustable 0 – 6)

Auger: factory set to shut down after first reversal (adjustable 0 – 3).

If, after the allotted number of clearing attempts, the jam condition still exists, the motor shall be de-energized, and after a 2-sec delay, it shall be energized in reverse direction for 0.5-sec. An Alarm Condition lockout circuit shall then be established and remain in the alarm state (even if power is lost) until it is reset as per module 6 below.

If at any time the equipment runs for more than 30 seconds continuously in the forward direction the reversal counter shall be reset.

The plug valve will remain closed until the reversal counter is reset to zero.

Module 6 **Alarms** (moved to Module 9 and combined with OIT display messages)

Module 7 **Auto Clean Cycle Sequence:**

Purpose:

Cleaning system and completely filling the flow meter pipe trap (dip) for proper flow meter operation, to keep the PH sensor fully submerged, and to maintain a cleaner environment in the general area of the PH Sensor & Flow Meter Electrodes.

Operation:

This cycle starts after each transaction. The auger motor and spray bar solenoid valve (***circuit 1,4***) shall remain energized for a user adjustable period (factory preset 2minute (120second)) for auger clearing. The Pipe Fill solenoid will open simultaneously to fill the flow and pH meter pipe trap.

> *Note: The auger cleaning cycle shall be immediately interrupted if the card reader has authorized the next user before the cycle is completed. The auger will continue running without reversing at start.*

Module 7a **Auto Cycle Sequence:**

Purpose:

Washing the internal parts of the tank to maintain a cleaner environment.

Operation:

This cycle starts after module 7 clean cycle is completed. The user adjustable (factory preset 3 Minute (180 second)) tank wash down cycle will initiate: The auger motor will continue Running uninterrupted and the circuit 2 spray solenoids will be energized. After the washing cycle is Complete the auger motor will shut down and all the spray wash solenoids will be de-energized

> *Note: The auger washing cycle shall be immediately interrupted if the card reader has authorized the next user before the cycle is completed. The auger will continue running without reversing at start.*

Module 8 **Solenoid Valve Operation**

Circuit 1 - Operates the auger screen solenoid. This circuit runs whenever the auger motor is running. It will run during the auto-clean cycle.

> ***Note: this circuit must be able to handle up to (3) solenoid valves.***

Circuit 2 - Operates the upper rotary spray ball solenoid. This circuit will optionally (user adjustable, factory set on) run when the auger motor runs. It will run during the auto-wash cycle. During “MAINTENANCE” operation of the auger the circuit will be off.

Circuit 3 - Operates the compaction zone solenoid. This circuit will cycle on & off (30) seconds on (user adjustable) and (15) min off (user adjustable) when the auger motor

runs in normal operation. It will optionally (user adjustable, factory set off) run during the tank auto-wash cycle.

Circuit 4 – Operates the pipe fill solenoid valve to fill the pipe It will run during the auto-clean cycle.

Module 9 **Alarm Conditions and OIT Display:**

Definitions

- Overload – When motor's average current exceeds the set point (normaly 1.2x FLA). It is detected by the motor overload relay or similar function in the VFD.
- Stalled – When the motor's instantaneous current exceeds the set point (normaly 4x FLA). It is detected by the current sensor/transformer or a similar function in the VFD.
- Jammed – When a motor stall condition has occurred causing the stall counter to exceed the set point (normally set to 3).

TRIP 1 – Process Stop

Caused by:

- Grinder Motor Thermostat Open.
- Grinder Motor Overload relay trips.
    - It shall be adjustable so that the range selected includes the full load amperes (FLA) rating and service factor of the motor. The overload shall be auto resetting.
- Grinder motor is Jammed.
- Plug valve fault signal (over torque) received by PLC.
- On initial start - If the Plug valve fails to fully open (open limit switch not activated) after being signaled to fully open and 2x the "fully open time" calculation has elapsed.
    - Only active when transaction is closing - if the Plug valve fails to fully close (closed limit switch not activated) after being signaled to close and 2x the "fully open time" calculation has elapsed.

Action:

A Process Stop condition is the same as pressing the Stop button (see module 4A). The normal stop sequence commences automatically and is followed by the Clean Cycle. The Wash Cycle and Cold Weather Protection are disabled and the process cannot be restarted until the condition is cleared.

TRIP 2: Immediate Stop

Cause:

- The Auger VFD trips on motor overload (average high current) condition.
- VFD provides a (general) fault signal to the PLC.

- The auger motor stalled count exceeds user programmable set point, factory set to one
- A faulted level sensor signal is received by PLC
- Imbalance in Voltage/Phase monitor signal is received by PLC.
- Any cover interlock is open.
- High-High level received for 5 continuous seconds.
- Level sensor fault
- Last 10 average pH values (user adjustable, factory set to 10) exceed either high or low set point

Action:
An Immediate Stop condition signifies that something drastic has occurred and the process must be stopped immediately. All motors stopped, the plug valve is closed, all solenoids are de-energized, and the transaction is closed. The Clean Cycle is not initiated. The Wash Cycle and Cold Weather Protection are disabled and the process cannot be restarted until the condition is cleared.

Trip 3: Display only

Cause:
- pH sensor Fault
- pH sensor Low
- pH sensor High
- Tank Level High

Action:
Display alarms are simply displayed on the HMI without any impact on the process. Indicate a warning sign on OIT Display.

TRIP 4: Hard wired E-stop

Cause:
- E-stop button pressed

Action:
The hard wired e-stop button will shut down the entire system by tripping the safety relay and removing control power. The system cannot be restarted until the E-Stop is reset.

General Alarm Notes
- The Alarm Condition Lockout Circuit can be reset by holding the OIT stop button for 5 continuous seconds.
- NOTE: *Before manually clearing an obstruction, the disconnect mounted BEFORE this controller must be opened and locked out.*

OIT Display

PLC messages & prompts to the haulers and for plant personal to enter hauler data into the PLC (activate & deactivate haulers).
Grinder and auger run times, elapsed times, reversals, jams, motor overloads and over temperature occurrences.
The following text informational messages shall appear:

OIT Display and Alram Table

#	Description	Warning (DISPLAY ON OIT)	Alarm Action (see module 6 for details)	Notes
1	Tank Wash Cycle	TANK WASH CYCLE - SWIPE CARD TO INTERRUPT	3	When the selector switches are in the Remote position, auger cleaning or wash cycle is taking place, and no grinder alarm exists.
2	Grinder jammed – wash cycle	GRINDER JAMMED - TANK WASH CYCLE	3	When the selector switches are in the Remote position and auger cleaning or wash cycle is taking place and a grinder alarm exists.
3	Ready to run condition	SWIPE CARD	3	When all selector switches are in the Remote position and the system is ready for another transaction.
4	Maintenance Mode Notice	MAINTENANCE MODE: THE COVER/DOOR SAFETY INTERLOCKS ARE BY-PASSED – USE CAUTION	3	When either the grinder, auger, or plug valve selector switch is in the Maintenance position
5	Grinder Jammed	Grinder Jammed	1	If Grinder gets jammed (as described in the Auto Clear Cycle)
6	Auger Jammed	Auger Jammed	2	When the Auger gets jammed (operation mentioned in Auto Clear Cycle)
7	Emergency Stop	E-Stop active	4	Shuts down the entire system (Hard-Wired e-stop)
8	Septage Receiver Cover Not Closed	Septage Receiver Cover Not Closed	2	If system active when cover switch is activated then Alarm 2.
9	Compaction Zone Cover Not Closed	Compaction Zone Cover Not Closed	2	If system active when cover switch is activated then Alarm 2.
10	Grinder Motor Overload	GRINDER MOTOR OVERLOAD	2	The overload shall be auto resetting.

#	Description	Warning (DISPLAY ON OIT)	Alarm Action (see module 6 for details)	Notes
11	Auger Motor Overload	AUGER MOTOR OVERLOAD	2	A fault is indicated if the Auger VFD trips on motor overload (continuous high current) condition
12	Auger VFD Fault	AUGER VFD FAULT	2	If the VFD gets faulted it will send a signal to the PLC.
13	Grinder In Maintenance Mode	GRINDER IN MAINTENANCE MODE	2	Based on position of selector switch
14	Auger In Maintenance Mode	AUGER IN MAINTENANCE MODE	2	Based on position of selector switch
15	Plug Valve In Maintenance Mode	PLUG VALVE IN MAINTENANCE MODE	2	Based on position of selector switch
16	Tank Level High	TANK LEVEL HIGH	3	When this signal is received from the level sensor for (5) continuous seconds it will display the message and modulate the plug valve per module 3, table 2
17	Tank Level High-High	TANK LEVEL HIGH-HIGH	2	When this Signal is received from the level sensor for (5) continuous seconds the alarm will trigger.
18	Plug Valve Fault	plug valve Fault	1	Over-torque contact closure on the plug valve will signal to the PLC a fault condition.
19	Plug Valve Fail To Fully Open	plug valve Fail to Fully Open	1	Only active on initial start If the Plug valve fails to fully open (open limit switch not activated) after being signaled to fully open and 2x the "fully open time" calculation has elapsed.
20	Plug Valve Fail To Fully Close	plug valve Fail to Fully Close	1	Only active on system shut down: if the Plug valve fails to fully close (closed limit switch not activated) after being signaled to close and 2x the "fully open time" calculation has elapsed.

#	Description	Warning (DISPLAY ON OIT)	Alarm Action (see module 6 for details)	Notes
21	Grinder Motor Temperature High	Grinder Motor Over-Temp	1	A fault is indicated if the Grinder Motor Thermostats are Open
22	Auger Motor Temperature High	Auger Motor Over-Temp	2	A fault is indicated if the Auger Motor Thermostats are Open
23	Grinder Excessive jams(stalled)	Grinder Stalled	1	This number exceeds user programmable set point, factory set to three
24	Level Sensor Fault	Level sensor Faulted	2	The system cannot operate with a faulted sensor
25	Flowmeter Fault	Flowmeter Faulted	2	The system cannot operate with a faulted sensor
26	pH Sensor Fault	pH Sensor Fault	3	(3) Unless being used to shut down on extremes, in which case (1).
27	pH Sensor High	pH Sensor High	3	(3) Unless being used to shut down on extremes, then (1)
28	pH Sensor Low	pH Sensor Low	3	(3) Unless being used to shut down on extremes, then (1)
29	Volt/Phase Monitor	Volt/Phase Monitor Faulted	2	Used for monitoring incoming voltage & protects the equipment. If a High or Low voltage is detected, or if any phase imbalance occurs, the PLC receives a Fault signal, it will shut down the system.

OIT function keys shall select the following displays: Date and Time, Real Time Data, and System Monitor.

OIT shall display real time data (while processing an order): Volume (in gallons), Tank Level (in inches).

Module 10 **Automatic Operation with data collection system:**

If the Grinder, Auger, and Plug Valve selector switches are all in the Remote positions, control is regulated via the card reader access system. Authentication of an access card shall enable the START and STOP pushbuttons. A text message shall acknowledge authentication and prompt the hauler to depress the START button. (50) Unique access cards to be supplied with the controller able to handle up to (300) access cards. The controller must allow a systems administrator to lock out individual cards for non-payment etc. and to write an on screen message.

Module 11 **Card Reader**

The actual cards are only available from FMI pre-programmed.

Note: Normally supply 50 cards and reserve 250 more, for a total of 300 possible cards. This is normally sufficient for most locations.

Normal account numbers are 8 - 9 digits. The card number total range is reserved at time of shipment for better security.

The card reader will read cards, but has no logic or intelligence - it cannot be programmed.

The active card range that the control (PLC) will accept is preset and cannot be modified. This is for security purposes. The total possible number of accounts should be considered for the expected life of the card reader.

The OIT screen is used to program the control (PLC) to accept or decline individual card numbers (accounts).

Module 12 **Printer:**

The controller shall be equipped with a thermal printer that shall print the transaction data to the customer receipts. Also, if required by System Administrator current PLC system set points. A printer jam or running out of paper shall not disable the system. The hauler should notify the plant operator if he did not receive a receipt and when the printer has been loaded with paper the last transaction can be reprinted.

Receipts shall contain at minimum the following information:

1) LOCATION [USER ADJUSTABLE]
2) DATES / TIME (OF START OF TRANSACTION)
3) ELASPED TIME

4) ACCOUNT NUMBER
5) GALLONS PUMPED (if Flow Meter installed)
6) pH AVG, LOW, HIGH (if pH module activated)
7) FAULTS encountered during operation.
8) “for questions, Call: “User entered NAME” at “User entered TELEPHONE NUMBER””

Set point List: A receipt shall be printable from the Hauler OIT showing the current PLC set points and timer values (notated as user adjustable.)

Module 13 **Flow Meter:**

Shall be a 4-20mA device powered from the control and the flow data stored in PLC.

Operation: 4-20mA analog signal from the flow meter will be used to operate the plug valve.

Totalizer pulse (digital) signal can be used for total flow calculation.

Minimum flow: After the initial startup when the machine starts running and reads flow at or below zero (User Adjustable) for about 60 seconds (User adjustable) it will shut down the system.

Maximum Flow: After the initial startup when the machine is running and the flow meter records a reading above 350gpm (User Adjustable) it will start shutting down the Plug Valve to regulate the flow as described in the plug valve module.

Module 14 **Tank Auger Ultrasonic Level sensor**

Ultrasonic sensor has two user adjustable set points.

A HIGH LEVEL condition shall cause the plug valve to modulate as described in Table 2.

A HIGH-HIGH LEVEL condition shall cause the plug valve to close as described in Table 2, initiate an Alarm condition, and indicate a ‘TANK HIGH-HIGH LEVEL’ alarm.

Module 15 **PH Meter:**

Operation: Measure and log the pH meter value every 15 seconds. Calculate the Max, Min, and average value of the readings after each measurement.

Option to turn off pH sensor function without effecting operation.

Two user adjustable set points:

PH Sensor High set point (factory set to pH 10)

PH Sensor Low set point (factory set to pH 4)

Optional Alarm conditions:

1. Alarm condition: if the overall average pH value calculated exceeds either set point:

   Print on receipt Average, Max, and Min pH values (default on)

2. Alarm condition: if the last 10 average pH values (user adjustable, factory set to 10) exceed either set point:

   Shut down system and Print on receipt average, Max, and Min pH values (default on)

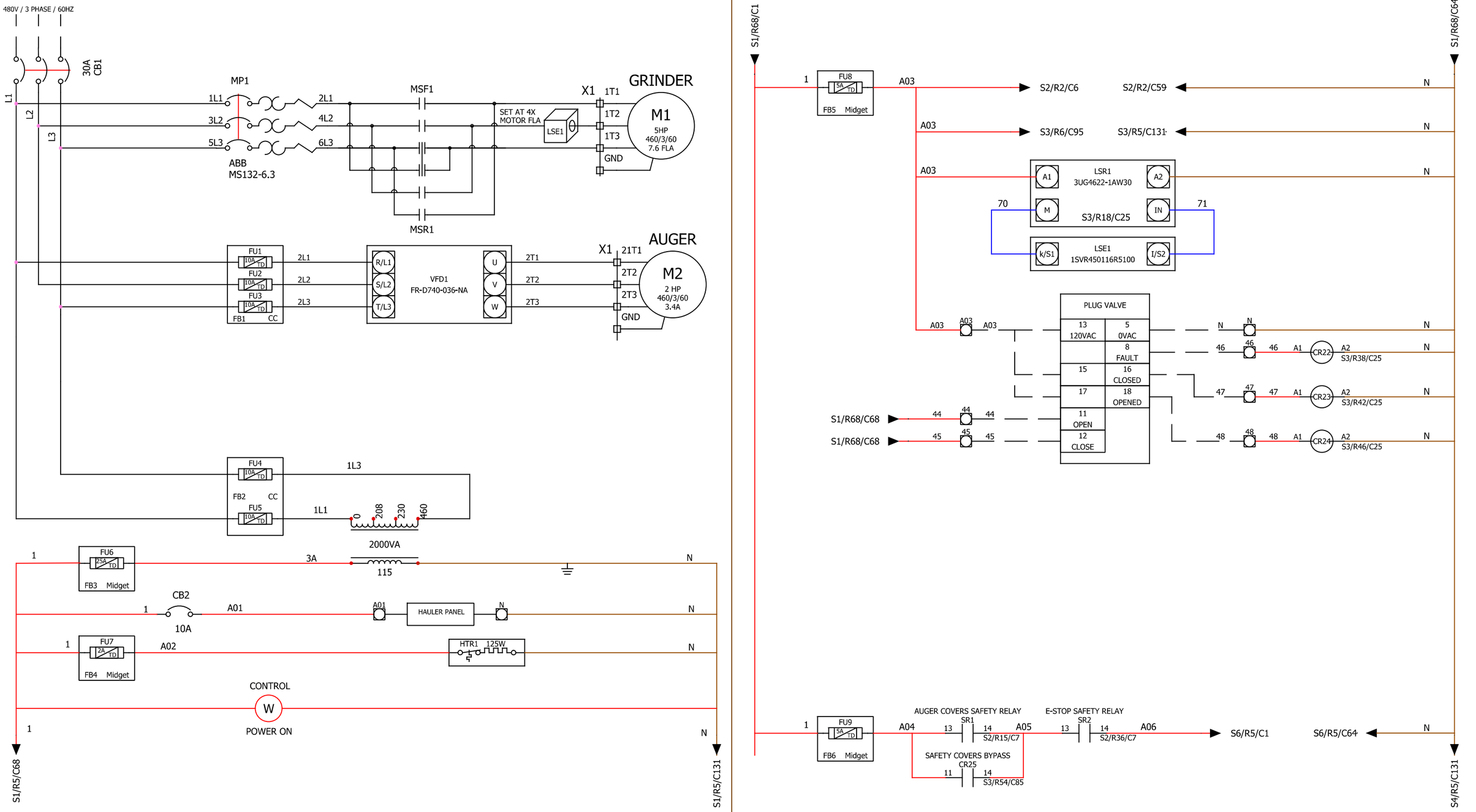
Module 16 **Cold weather protection**

There shall be a provision for a Low Temperature Module. It shall be able to be activated by closing a contact, either from a Physical (2) position switch in the Hauler Control station panel door or from an ambient sensing thermostat.

Operation: When the contact is closed the controller shall cycle all motors & spray washes *on* for a (User Adjustable Time, factory set to 15s, (5-180s Range) and *off* for a (User Adjustable Time, factory set to 15min, (5-60 min Range) The off timer shall start from the end of either the latest “Cold Weather” or “WASH CYCLE” termination.

When the contact is open the controller shall not cycle motors and spray wash.

THERMOSTAT will operate as a standard heater type. The *contact closure* is on lowering to a preset Cold Temperature.



WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

THIS COMPLETE ELECTRICAL ASSEMBLY WILL BE CONSTRUCTED AND LABELED TO CONFORM TO THE REQUIREMENTS OF U.L. 508A PROCEDURES.

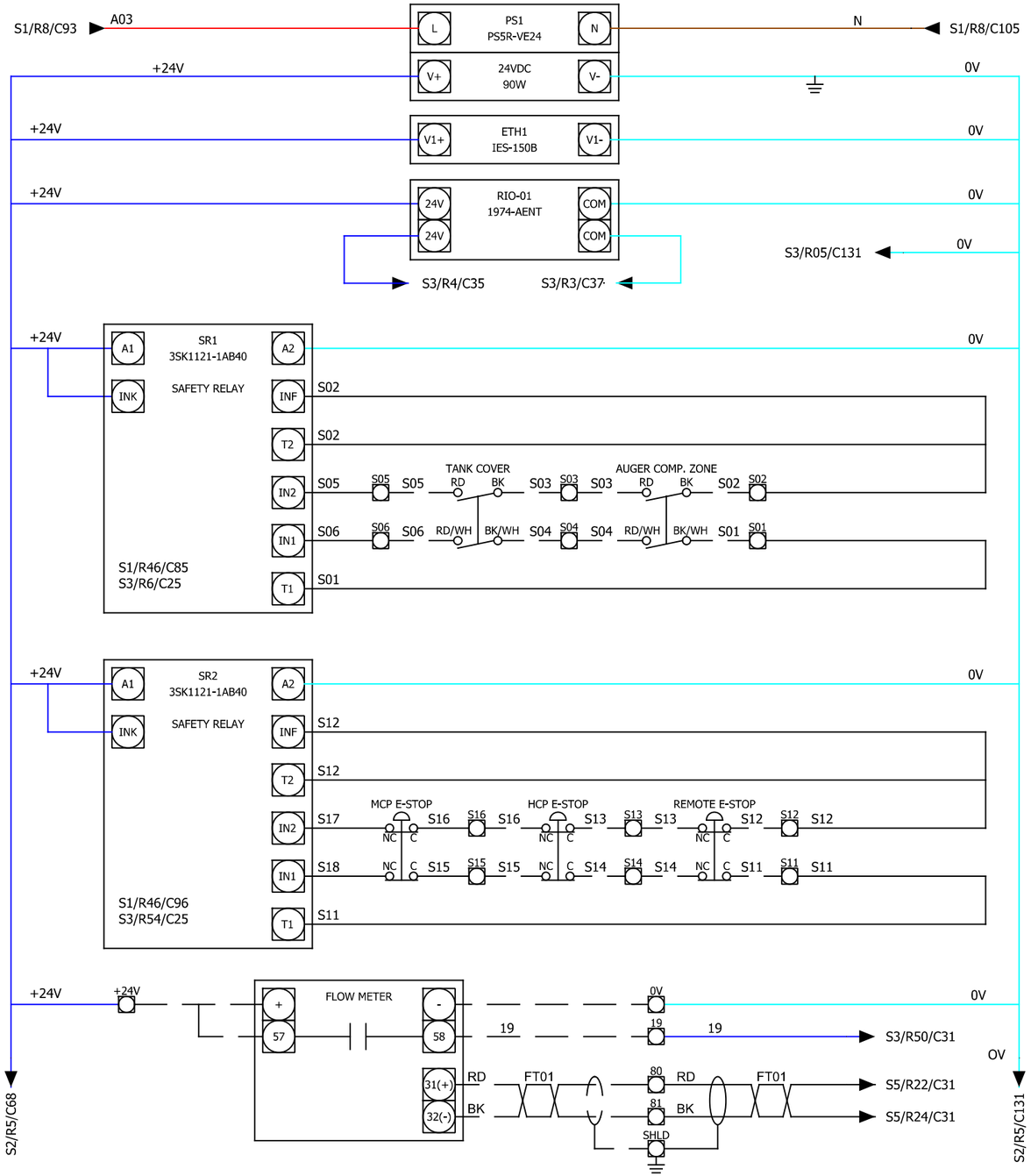
* WIRE SIZE SHALL BE 16 AWG OR MAXIMUM ALLOWED AS RATED BY COMPONENT MANUFACTURER IF COMPONENT IS RATED FOR SMALLER THAN 16 AWG

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60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	04/18/2023	-	-	EC12981,12982 MCP	1
						REV 0



WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	04/18/2023	-	-	EC12981,12982 MCP	2
						REV 0

S2/R68/C68

DI-01
(1794-IB16)

S2/R18/C39
S2/R18/C26
0V
+24V

33 SR1 34 S2/R15/C7	8	0 / 17 / 35	AUGER COVERS SAFETY RELAY SATISFIED
		1 / 18 / 36	SPARE
SE VFD1 RUN S1/R22/C33	10	2 / 19 / 37	AUGER JAMMED
11 LSR1 14 S1/R14/C93	11	3 / 20 / 38	GRINDER MOTOR OVERLOAD OK
13 MP1 14 S1/R9/C20	12	4 / 21 / 39	GRINDER MOTOR PROTECTOR NOT TRIPPED
+24V +24V 13	13	5 / 22 / 40	GRINDER MOTOR TEMPERATURE OK
C VFD1 A S1/R22/C33	14	6 / 23 / 41	AUGER VFD NOT OVERLOADED
+24V +24V 15	15	7 / 24 / 42	AUGER MOTOR TEMPERATURE OK
11 CR22 14 S1/R32/C118	16	8 / 25 / 43	PLUG VALVE FAULTED
11 CR23 14 S1/R36/C118	17	9 / 26 / 44	PLUG VALVE CLOSED
11 CR24 14 S1/R40/C118	18	10 / 27 / 45	PLUG VALVE OPENED
S2/R65/C55 19 19	19	11 / 28 / 46	FLOW TOTALIZER PULSE
33 SR2 34 S2/R36/C7	20	12 / 29 / 47	E-STOP SAFETY RELAY SATISFIED
		13 / 30 / 48	SPARE
		14 / 31 / 49	SPARE
		15 / 32 / 50	SPARE

TERMINALS 16-33 ARE CONNECTED INTERNALLY.

TERMINALS 34-51 ARE CONNECTED INTERNALLY.

S3/R03/C95
S3/R04/C97
0V
+24V
33 / 51

S4/R5/C1

DO-01
(1794-OW8)

16 / 34
0V
+24V
S3/R71/C37
S3/R73/C35

GRINDER RUN FORWARD COMMAND	3A: 0 / 1	21	A1 CR1 A2 S6/R7/C7
GRINDER RUN REVERSE COMMAND	3A: 2 / 3	22	A1 CR2 A2 S6/R10/C18
AUGER RUN FORWARD COMMAND	3A: 4 / 5	23	A1 CR3 A2 S3/R28/C110
AUGER RUN REVERSE COMMAND	3A: 6 / 7	24	A1 CR4 A2 S3/R32/C110
PLUG VALVE OPEN COMMAND	3A: 8 / 9	25	14 CR9 13 S6/R19/C7
PLUG VALVE CLOSE COMMAND	3A: 10 / 11	26	14 CR10 13 S6/R22/C18
SAFETY COVERS BYPASS	3A: 12 / 13	34	A1 CR25 A2 S1/R50/C85
COLD WEATHER PROTECTION ON COMMAND	3A: 14 / 15	35	A1 CR30 A2

CR3 11 14 73 STF
72 SD
CR4 11 14 74 STR
VFD1 (24VDC SIGNALS)

0V

S2/R15/C65

S4/R5/C131

33 / 51
0V
+24V
S4/R03/C37
S4/R04/C35

WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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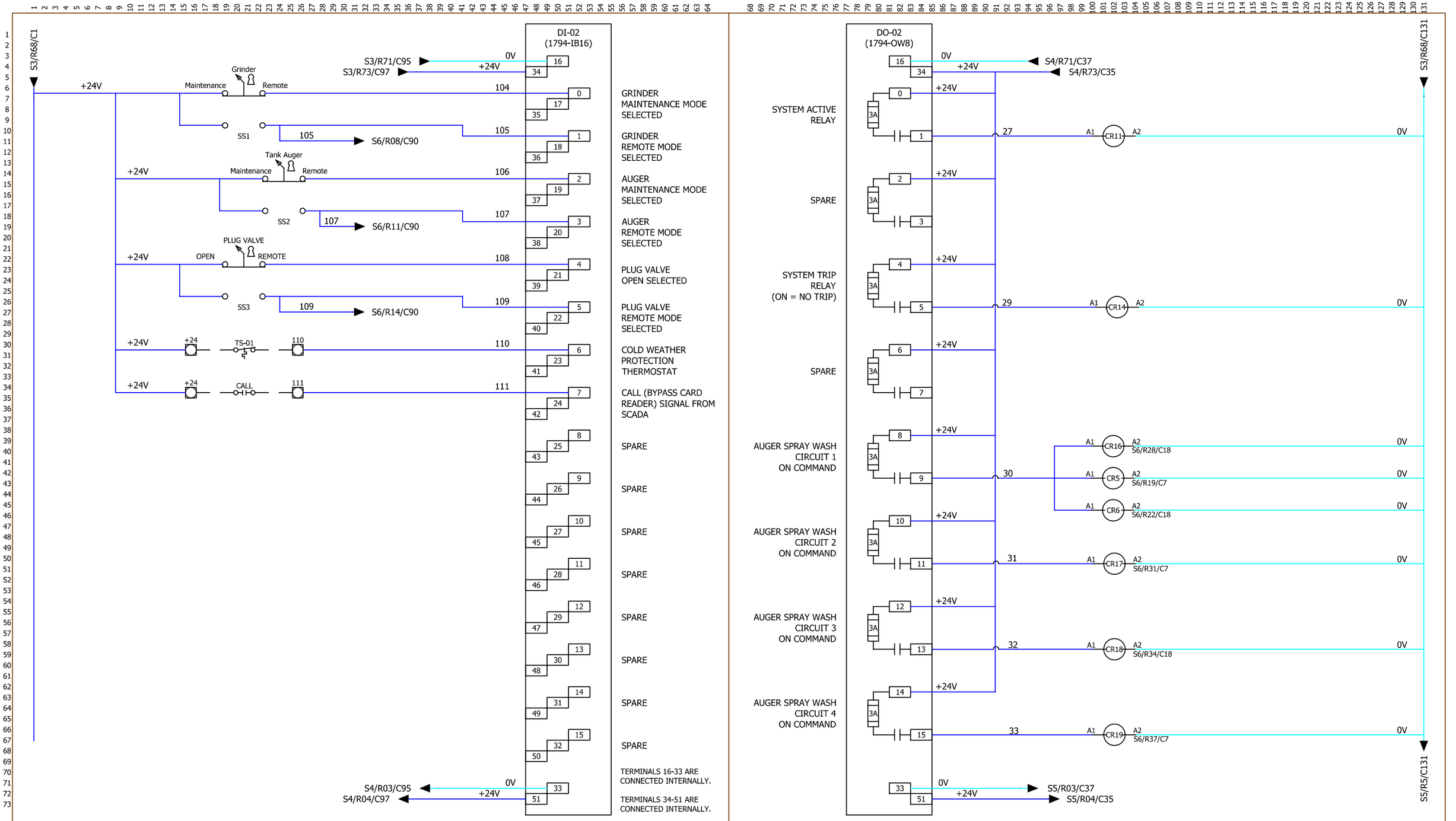
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Franklin Miller INC.
60 OKNER PARKWAY, LIVINGSTON, N.J. 07039

EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	04/18/2023	-	-	EC12981,12982 MCP	3
						REV 0



WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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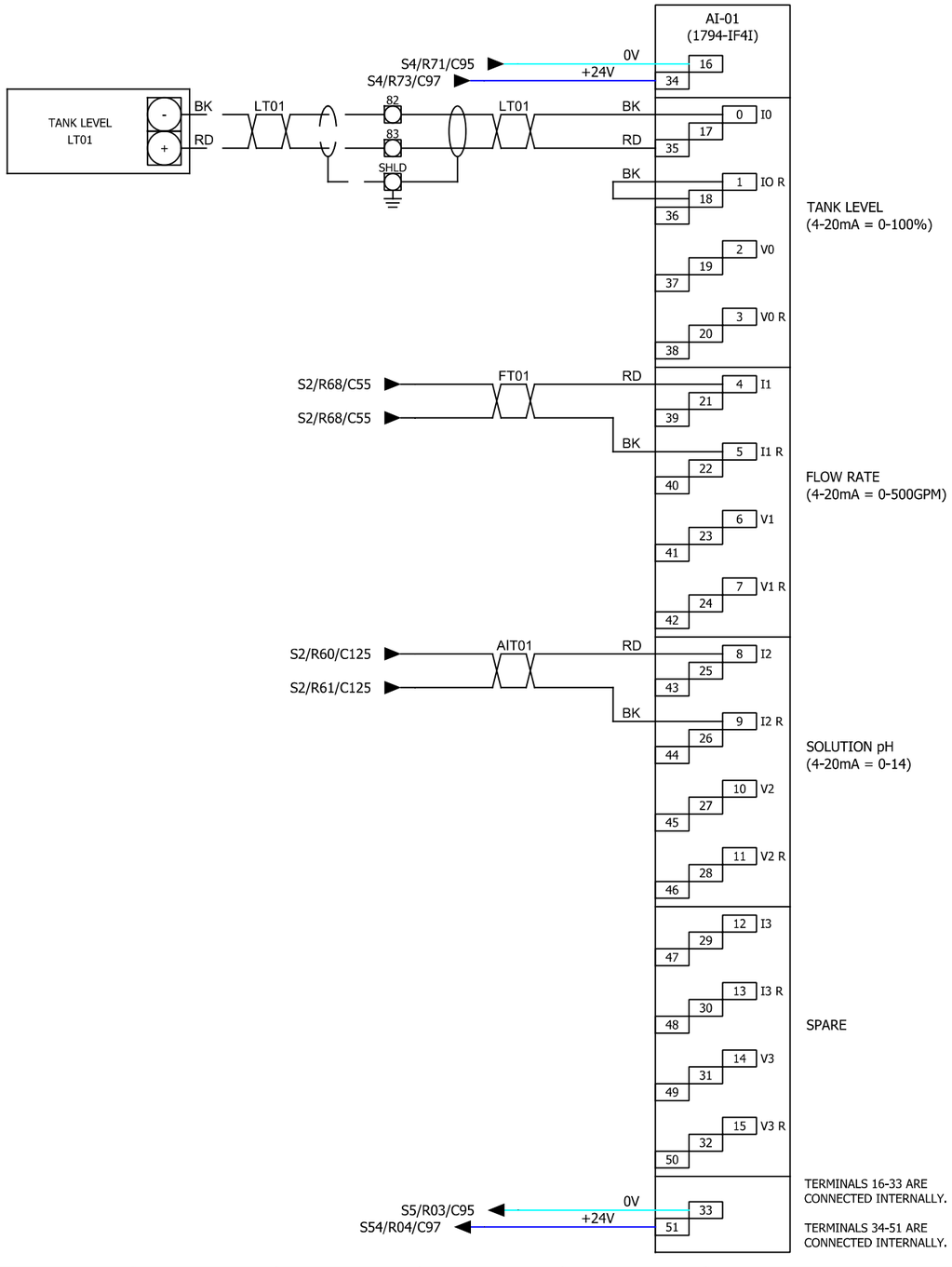
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EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	04/18/2023	-	-	EC12981,12982 MCP	4
						REV 0



WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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NONE	KWS	04/18/2023	-	-	EC12981,12982 MCP	5
						REV 0

S1/R66/C110

S1/R66/C123

Grinder - Forward
CR1
A06 11 14 S3/R10/C100
40
MSR1 1 2 S1/R9/C31
41
A1 MSF1 A2 S1/R9/C31
N

Grinder - Reverse
CR2
A06 11 14 S3/R18/C100
42
MSF1 1 2 S1/R9/C31
43
A1 MSR1 A2 S1/R9/C31
N

Auger Spray Wash - Circuit 1
CR5
A06 11 14 S4/R42/C100
50 50 FV1A N N

Auger Spray Wash - Circuit 1
CR6
A06 11 14 S4/R45/C100
51 51 FV1B N N

Open Plug Valve
CR9
A06 9 5 S3/R42/C100
44 S1/R38/C80

Close Plug Valve
CR10
A06 9 5 S3/R50/C100
45 S1/R40/C80

Auger Spray Wash - Circuit 1
CR16
A06 11 14 S4/R39/C100
49 49 FV1C N N

Auger Spray Wash - Circuit 2
CR17
A06 11 14 S4/R50/C100
52 52 FV2 N N

Auger Spray Wash - Circuit 3
CR18
A06 11 14 S4/R58/C100
53 53 FV3 N N

Auger Spray Wash - Circuit 4
CR19
A06 11 14 S4/R66/C100
54 54 FV4 N N

S4/R11/C32 105 A1 CR31 A2 0V

S4/R19/C32 107 A1 CR32 A2 0V

S4/R27/C32 109 A1 CR33 A2 0V

S5/R68/C131

S5/R5/C131

WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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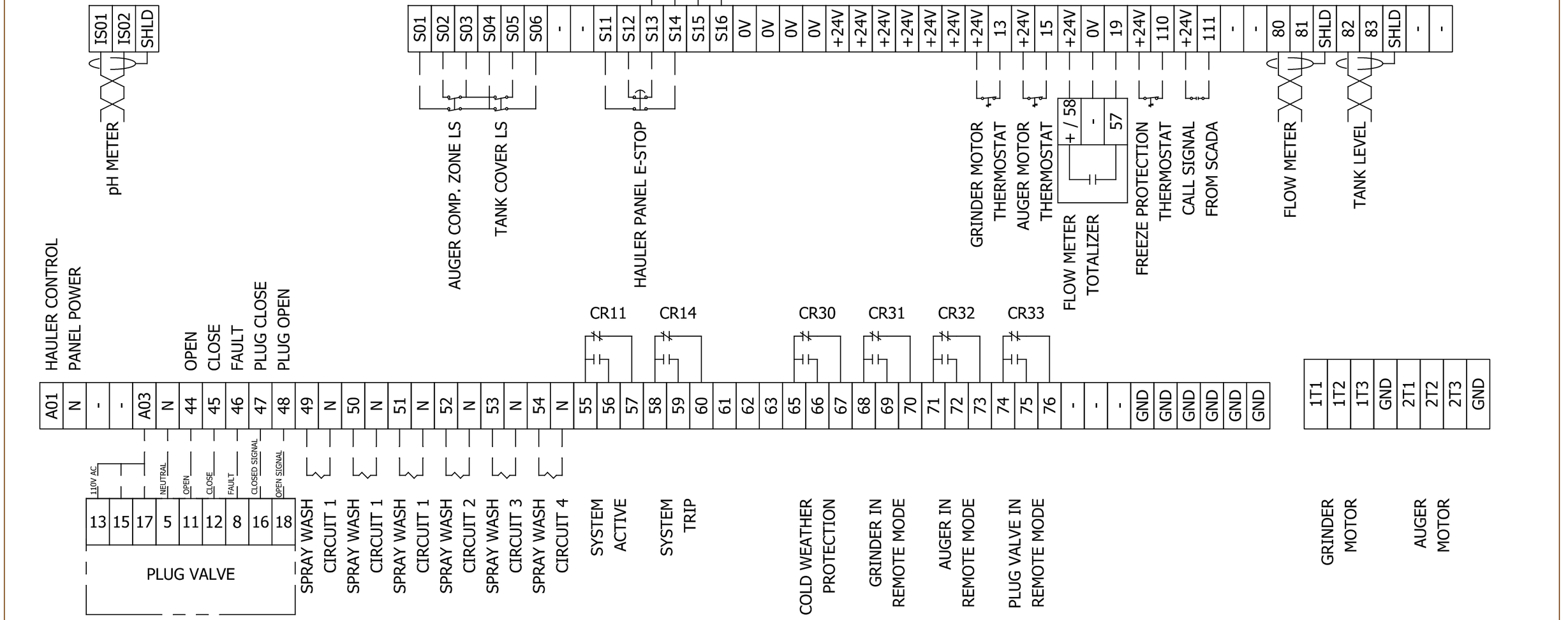
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EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	04/18/2023	-	-	EC12981,12982 MCP	6
						REV 0



WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
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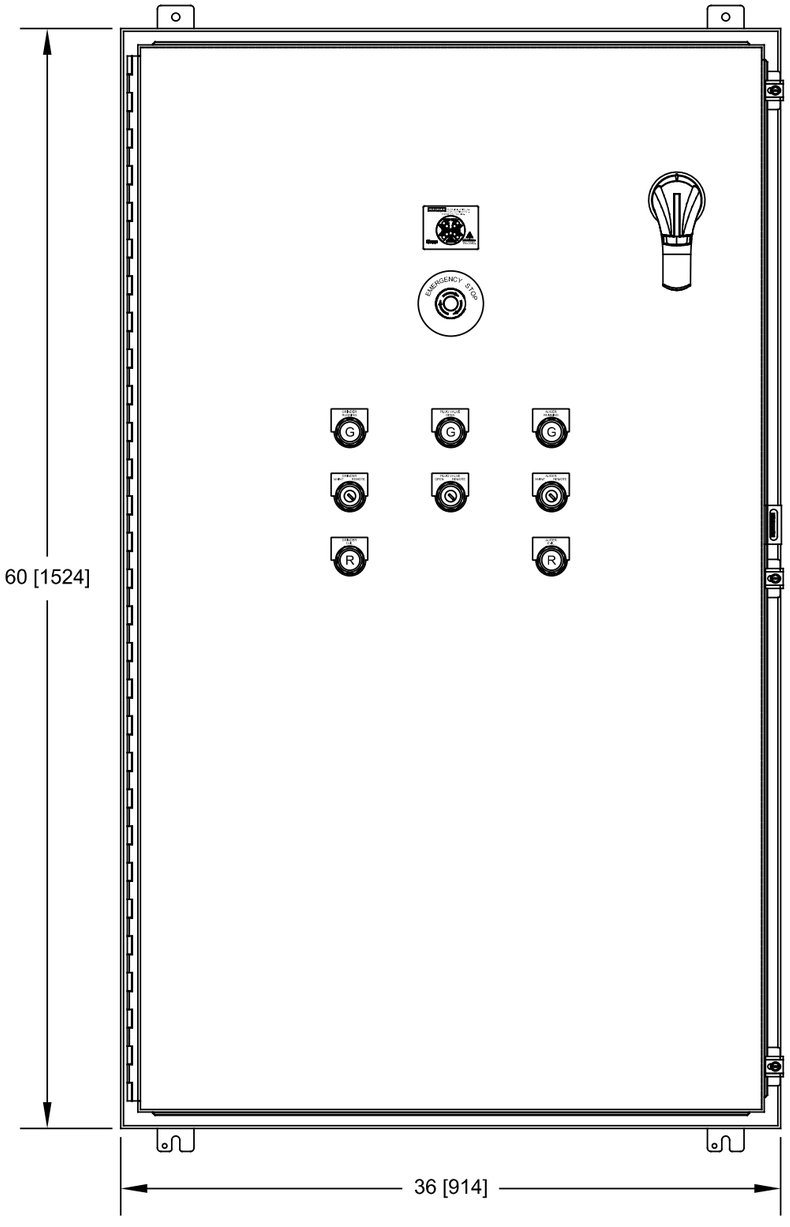
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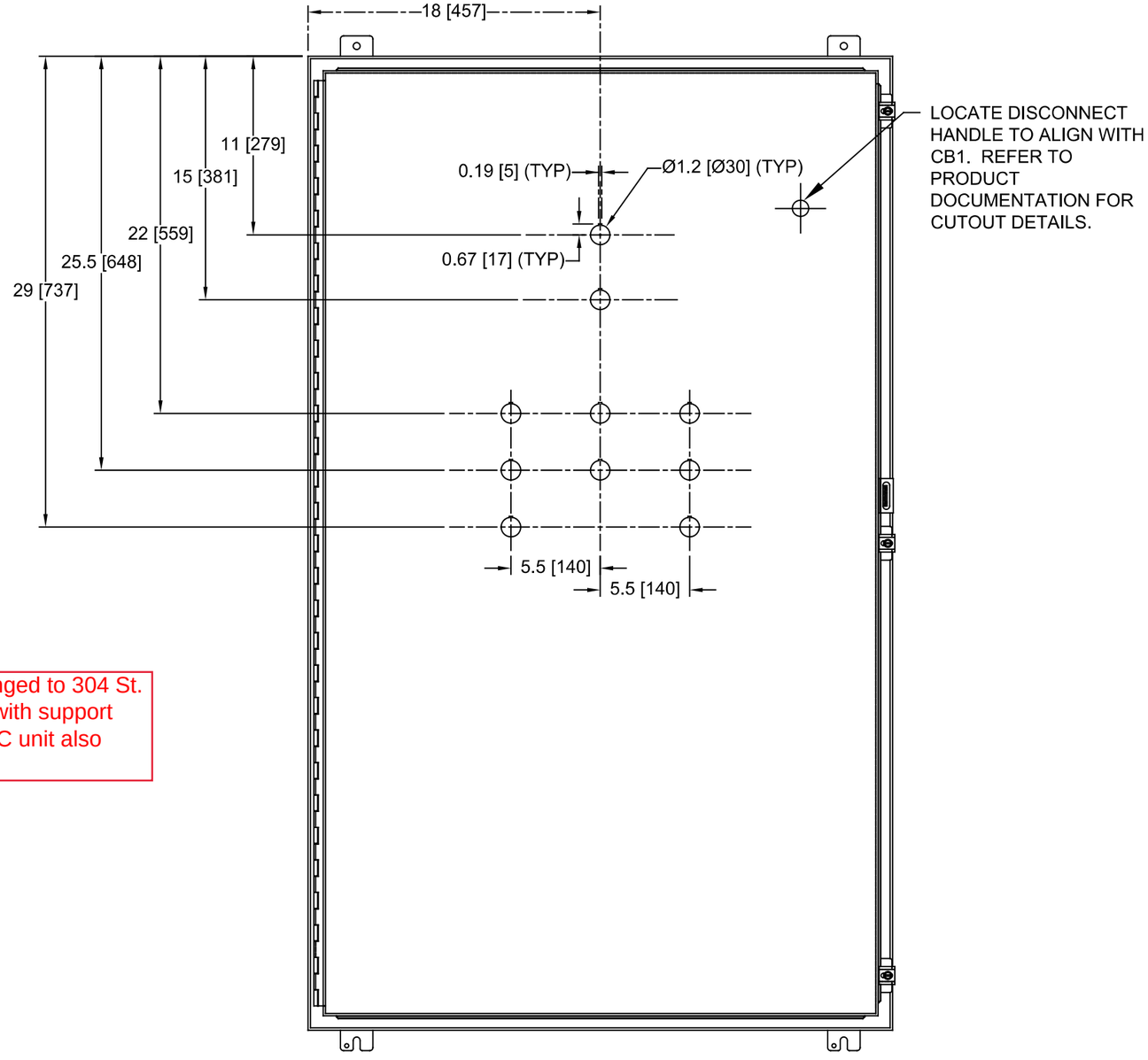
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EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	04/18/2023	-	-	EC12981,12982 MCP	7
						REV 0





Enclosure changed to 304 St. Stl. NEMA 4X with support Feet added. AC unit also added.

WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
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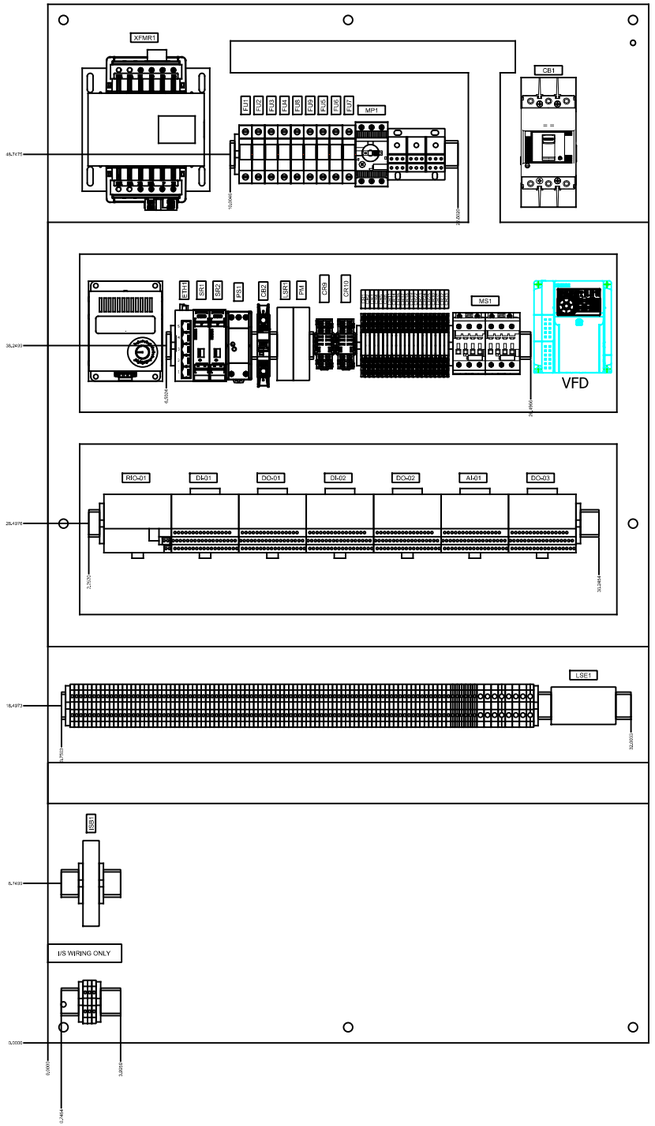
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EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
1:8	KWS	04/18/2023	-	-	EC12981,12982 MCP	8
						REV 0



WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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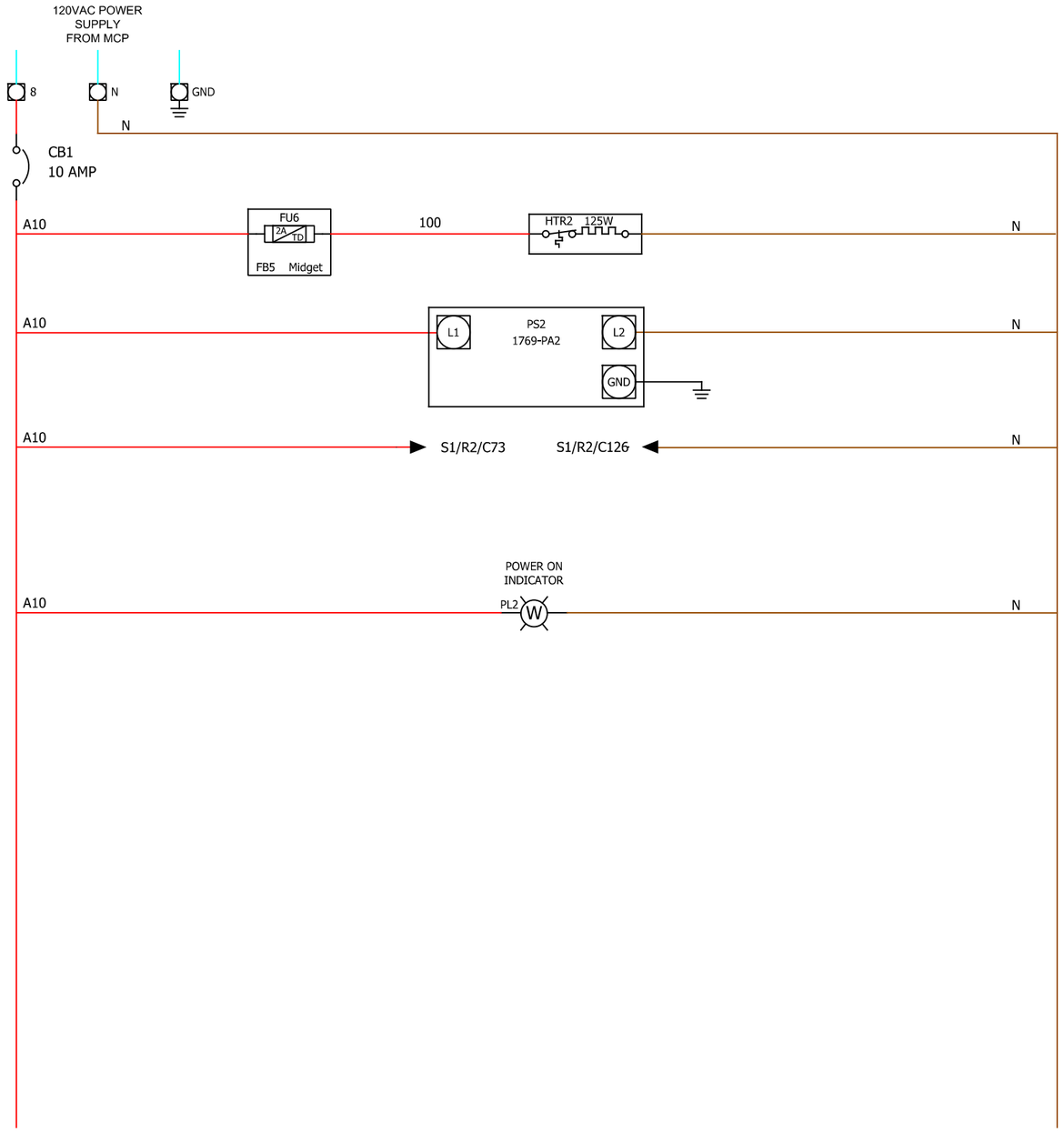
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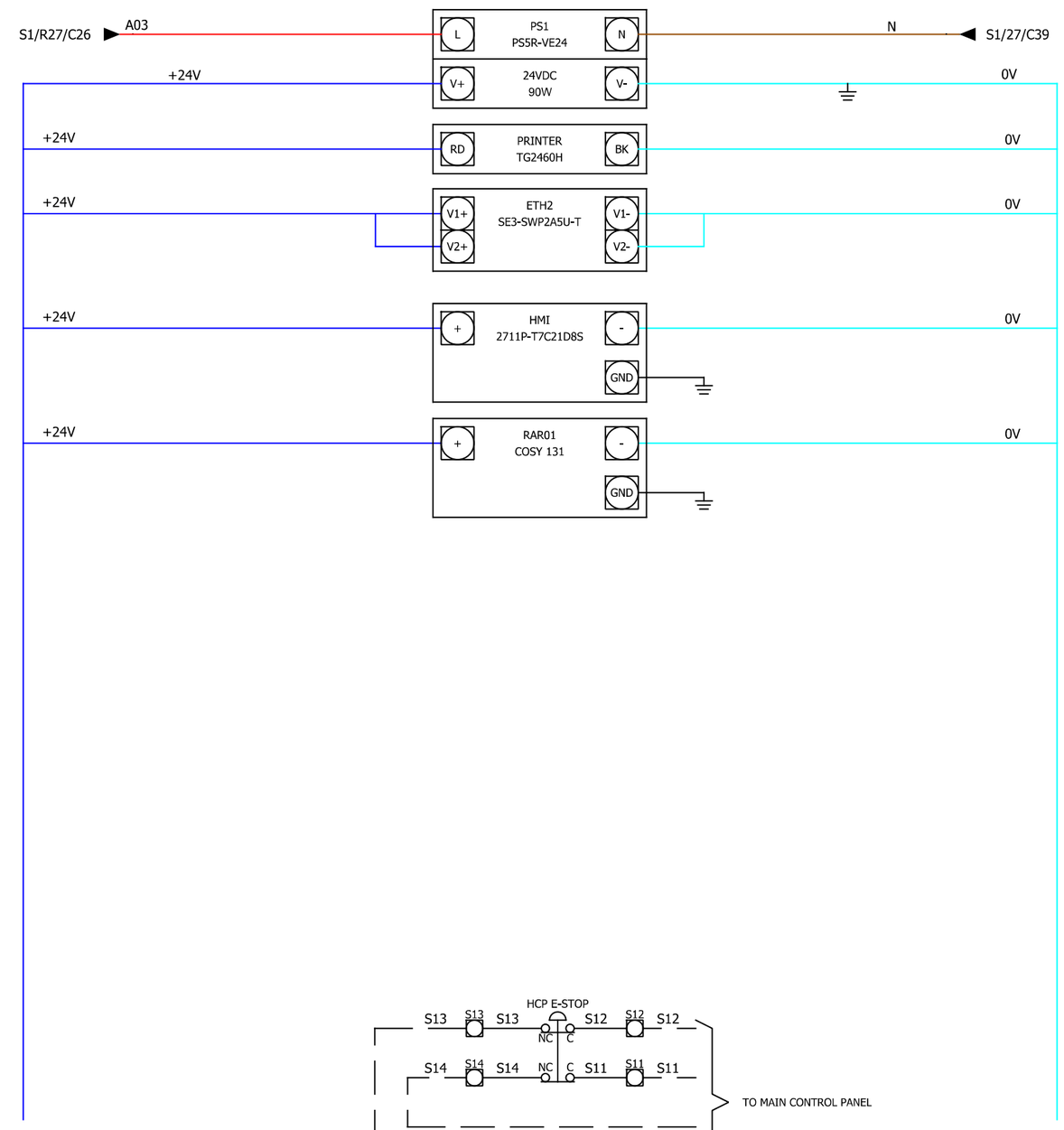
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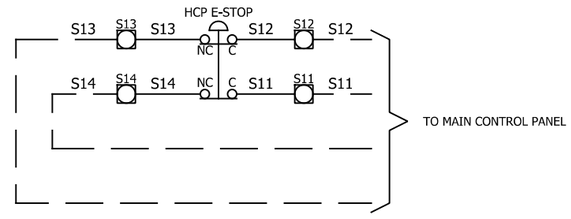
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EC12981,12982 MCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
1:8	KWS	04/18/2023	-	-	EC12981,12982 MCP	9
						REV 0







WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
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LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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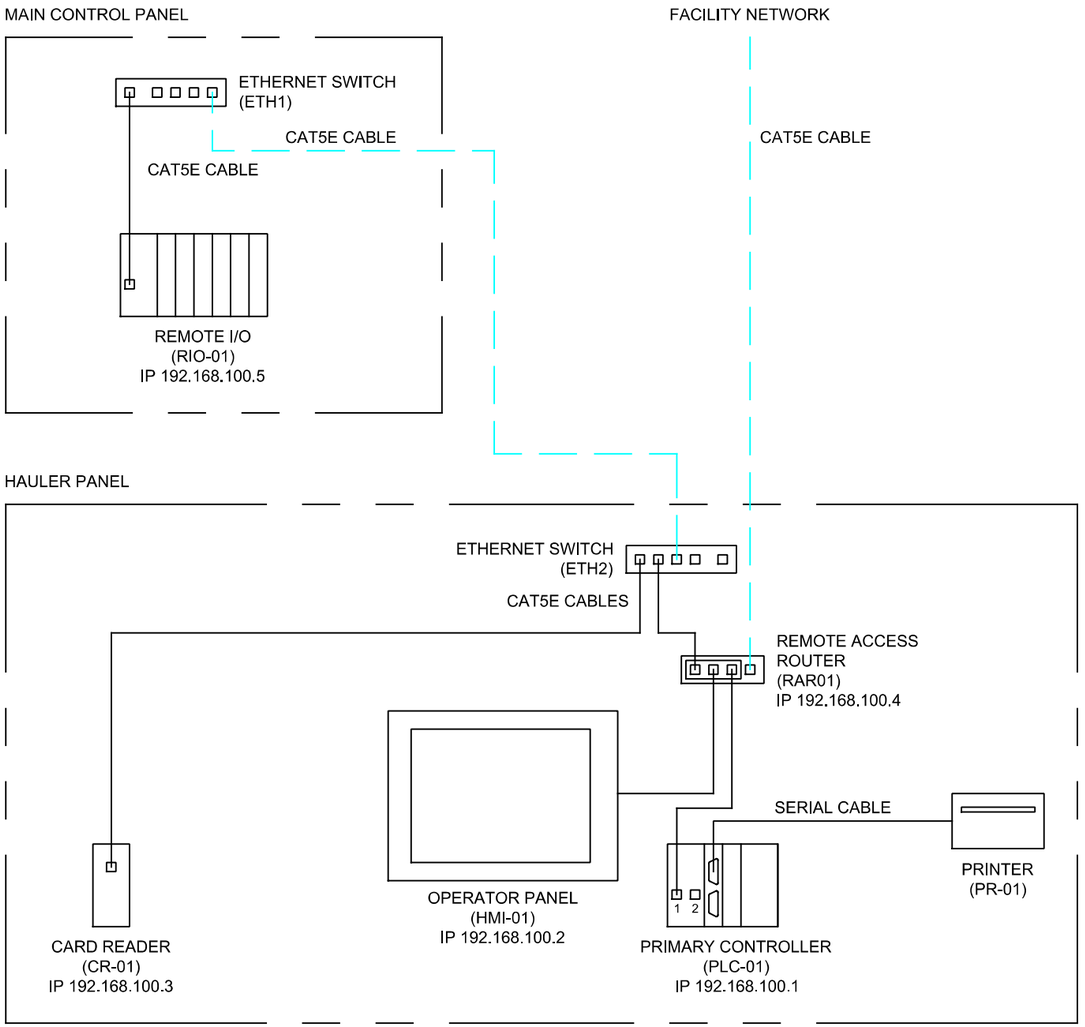
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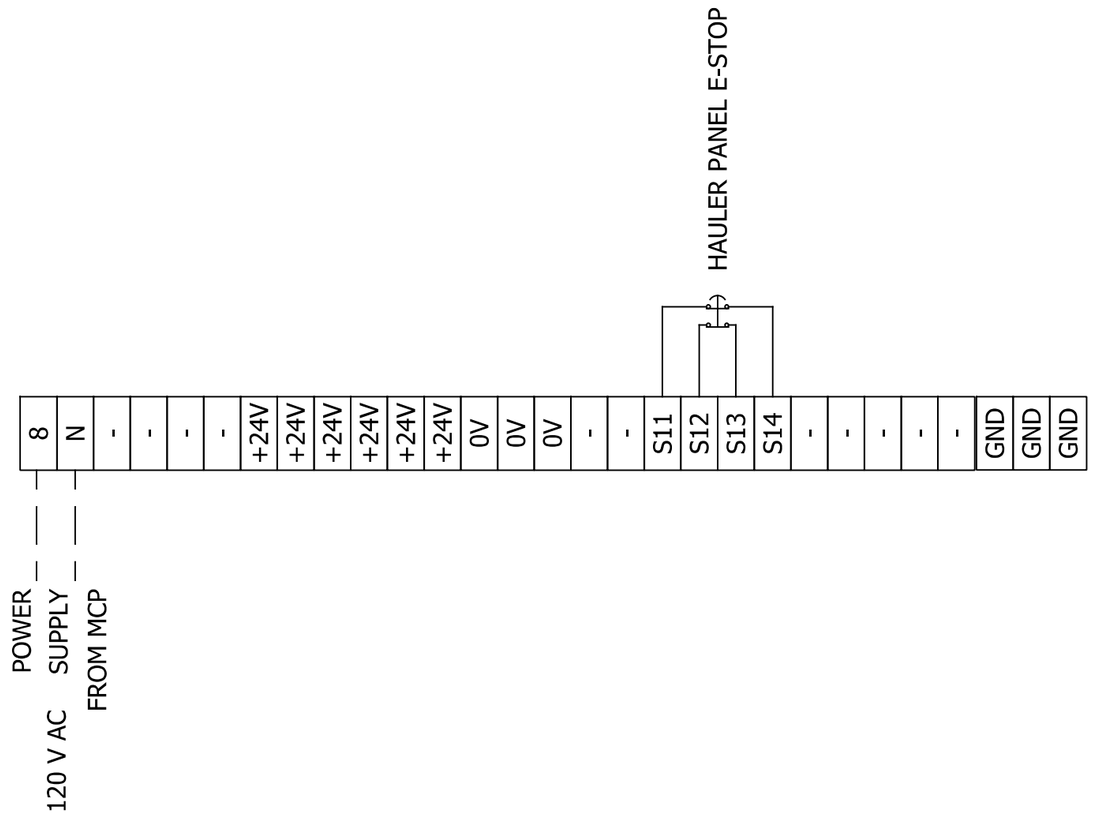
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EC12981,12982 HCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	08/02/24	-	-	EC12981,12982 HCP	1
						REV 0





WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
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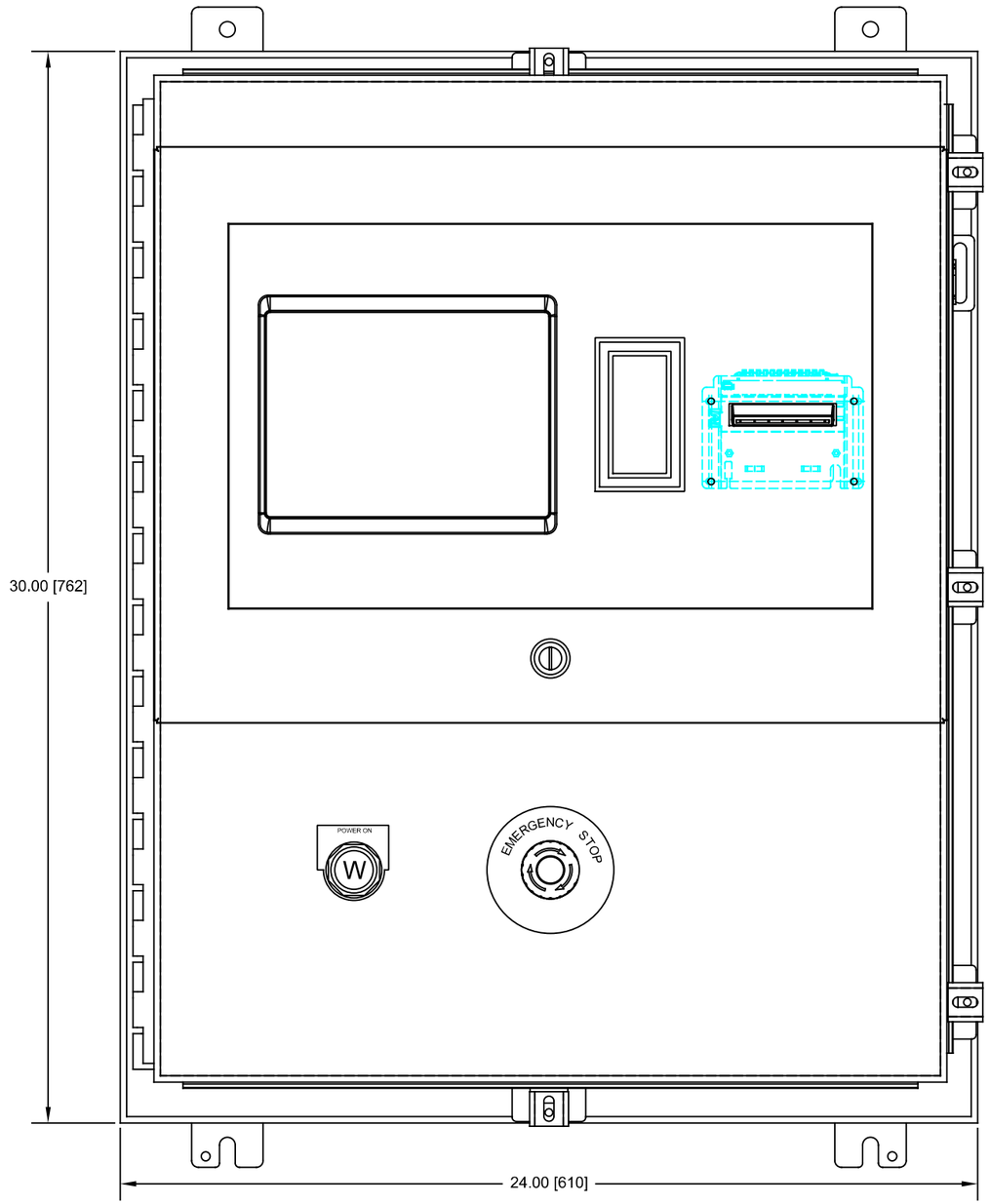
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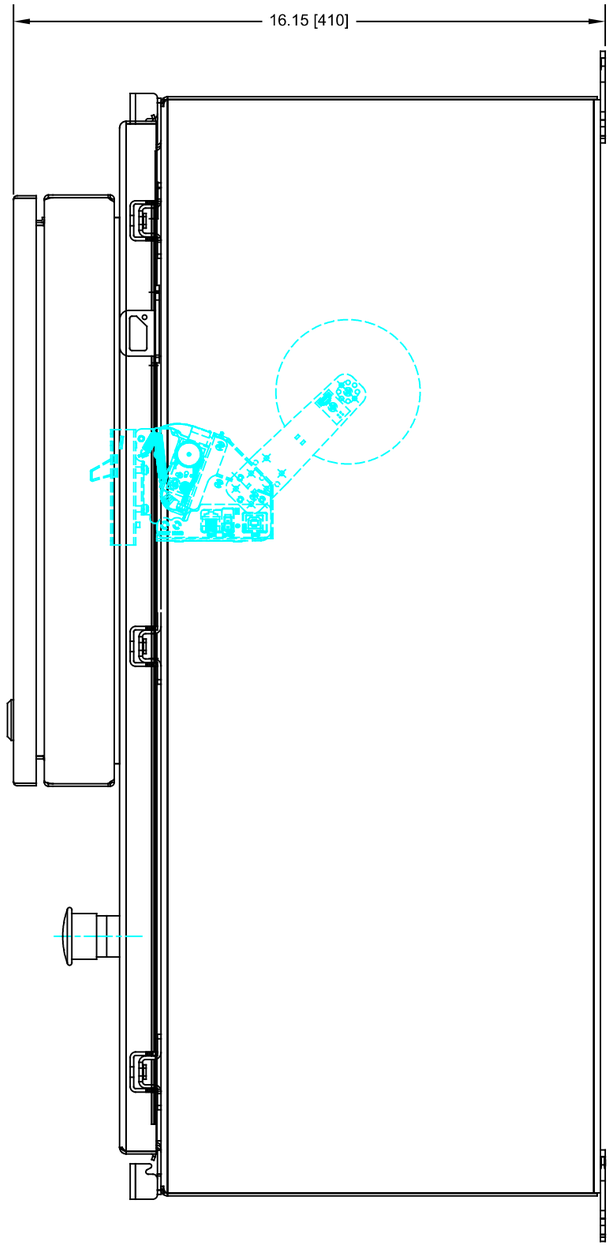
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EC12981,12982 HCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	08/02/24	-	-	EC12981,12982 HCP	2
						REV 0





WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
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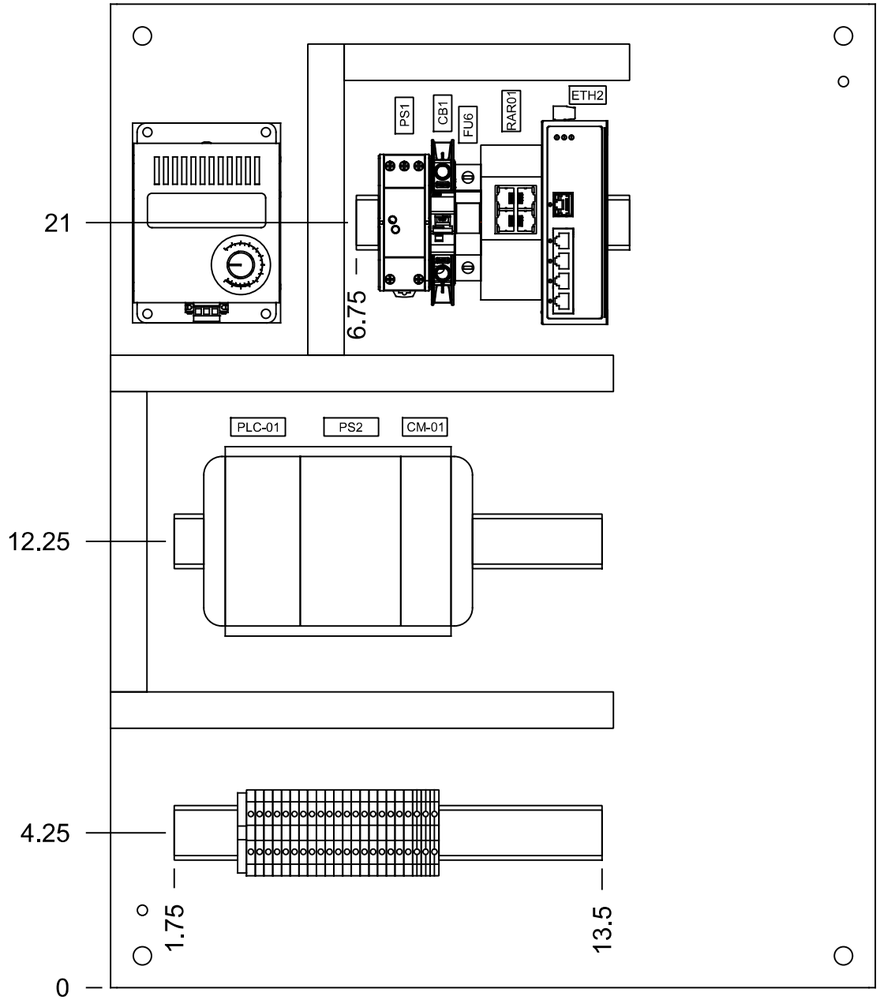
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EC12981,12982 HCP

SCALE	DRAWN	DATE	CHKD	DATE	DWG	SHT
NONE	KWS	08/02/24	-	-	EC12981,12982 HCP	3
						REV 0



SUBPANEL PANEL LAYOUT

WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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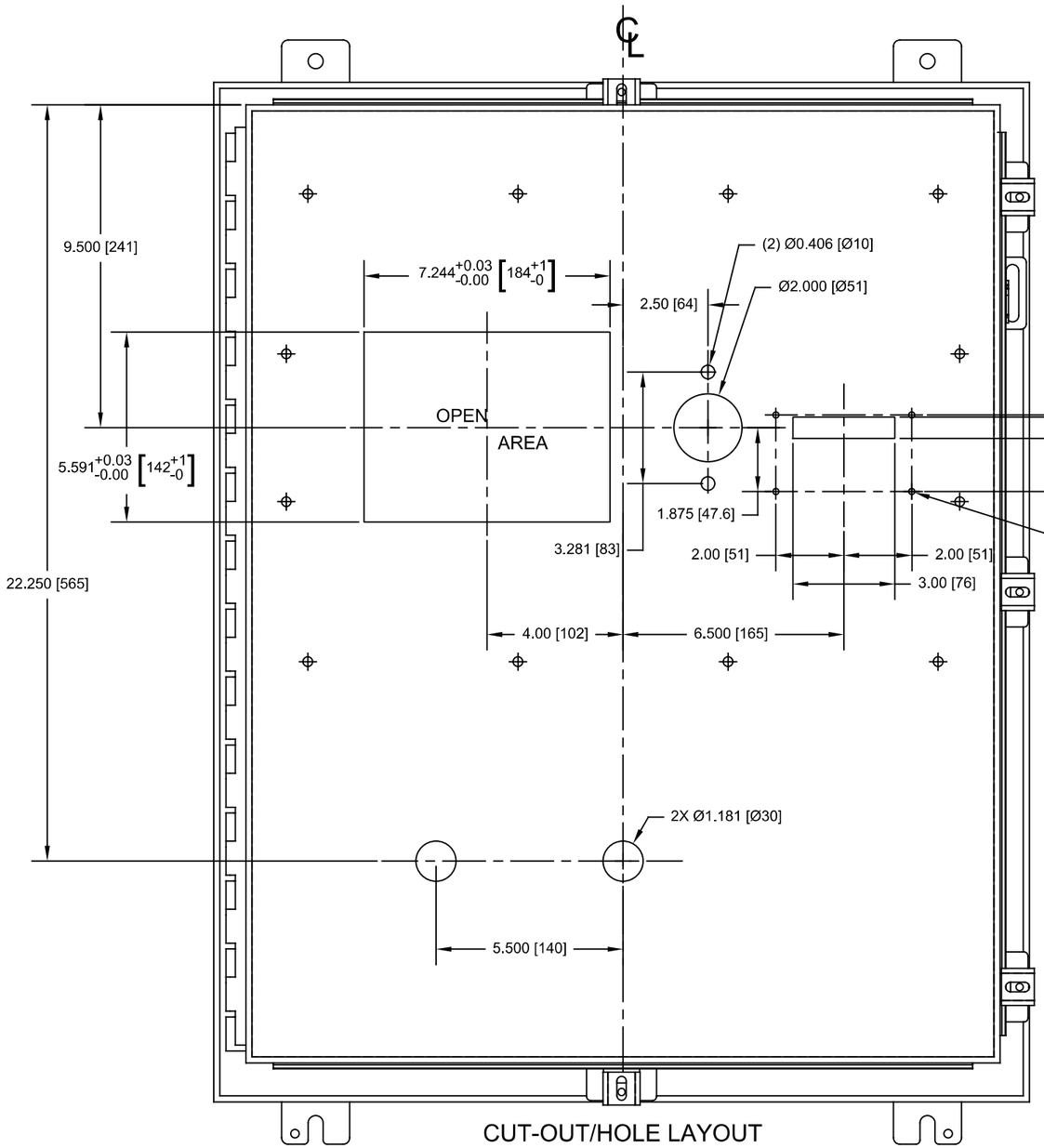
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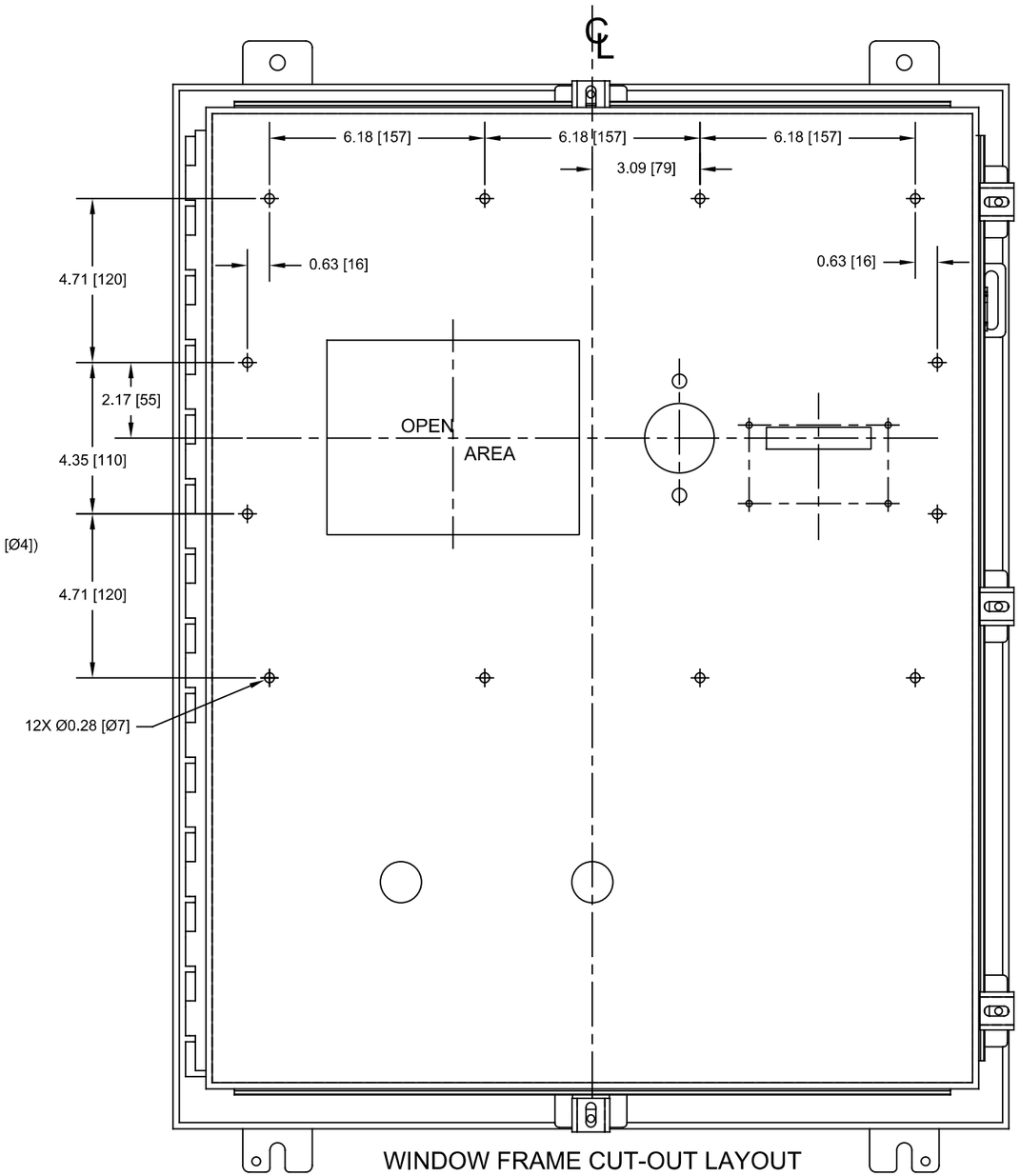
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						REV 0



CUT-OUT/HOLE LAYOUT



WINDOW FRAME CUT-OUT LAYOUT

WIRE TYPE	SIZE*	COLOR	WIRE TYPE	SIZE*	COLOR
POWER	AS REQUIRED	BLACK	24 VDC	16 AWG	BLUE
120V CONTROL	16 AWG	RED	12 VDC	16 AWG	PURPLE
120V NEUTRAL	16 AWG	WHITE	EXT. POWER	16 AWG	YELLOW
24 VAC	16 AWG	ORANGE	SHIELDED	18 AWG	MULTI
LOW VAC	16 AWG	BROWN	GROUND	16 AWG	GREEN

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SECTION 15050

BASIC MECHANICAL MATERIALS AND METHODS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Basic design and performance requirements for mechanical equipment.

B. Related Sections:
1. Section 01612 - Seismic Design Criteria
2. Section 01614 – Wind Design Criteria
3. Section 01756 - Testing, Training, and Facility Start-up.
4. Section 01782 - Operating and Maintenance Data.
5. Section 15958 - Mechanical Equipment Testing.

1.02 REFERENCES

A. American Gear Manufacturer's Association (AGMA) Standards:
1. AGMA 2001-B88 - Fundamental Rating Factors and Calculation Methods for Involute Spur and Helical Gear Teeth.
2. AGMA 6000-A88 - Specification for Measurement of Linear Vibration on Gear Units.
3. AGMA 6010-E88 - Standard for Spur, Helical, Herringbone, and Bevel Enclosed Drives.
4. AGMA 6019-E89 - Standard for Gear motors using Spur, Helical, Herringbone, Straight Bevel or Spiral Bevel Gears.
5. AGMA 6025-C90 - Sound for enclosed Helical, Herringbone and Spiral Bevel Gear Drives.

B. American Society of Mechanical Engineers (ASME):
1. ASME PTC 8.2 - Performance Test Code for Centrifugal Pumps.
2. ANSI/ASME PTC 10 - Performance Test Code - Compressors and Exhausters.
3. ANSI/ASME PTC 17 - Performance Test Code - Reciprocating Internal-Combustion Engines.
4. ANSI/ASME PTC 11 - Performance Test Code - Measurement of Shaft Horsepower - Instruments and Apparatus.

C. Antifriction Bearing Manufactures Association (AFBMA) Standards:
1. AFBMA 9 - Load Ratings and Fatigue Life for Ball Bearings.
2. AFBMA 11 - Load Ratings and Fatigue Life for Roller Bearings.

D. American Society for Testing and Materials (ASTM):
1. A 36 - Standard Specification for Structural Steel.
2. A 48 - Standard Specification for Gray Iron Castings.
3. A 526 - Standard Specification for Steel Sheet, Zinc Coated by the Hot Dip Process, Commercial Quality.
4. B-61 - Standard Specification for Steam or Valve Bronze Castings.
5. B 62 - Standard specification for Composition Bronze or Ounce Metal Castings.
6. E 527 - Standard Practice for Numbering Alloys and Metals (UNS).

E. American National Standards Institute/Hydraulic Institute Standards (ANSI/HI):
   1. ANSI/HI 1.1-1.5 - Centrifugal Pumps - Nomenclature, Definitions, Application and Operation.
   2. ANSI/HI 1.6 - Centrifugal Pump Tests.
   3. ANSI/HI 2.1-2.5 - Vertical Pumps - Nomenclature, Definitions, Application and Operation.
   4. ANSI/HI 2.6 - Vertical Pump Tests.
   5. ANSI/HI 3.1-1.5 - Rotary Pumps - Nomenclature, Definitions, Application and Operation.
   6. ANSI/HI 3.6 - Rotary Pump Tests.
   7. ANSI/HI 4.1-4.6 - Sealless Rotary Pumps - Nomenclature, Definitions, Application, Operation and Test.
   8. ANSI/HI 5.1-1.6 - Sealless Centrifugal Pumps - Nomenclature, Definitions, Application, Operation and Test.
   9. ANSI/HI 6.1-6.5 - Reciprocating Power Pumps - Nomenclature, Definitions, Application and Operation.
   10. ANSI/HI 7.1-7.5 - Controlled Volume Pumps - Nomenclature, Definitions, Application and Operation.
   11. ANSI/HI 9.1-9.5 - Pumps - General Guidelines for Types, Definitions, Application and Sound Measurement.

1.03 DEFINITIONS

A. Special Tools: Tools that have been specifically made for use on unit of equipment for assembly, disassembly, repair, or maintenance.

B. Resonant Frequency: That frequency at which a small driving force produces an ever larger vibration if no dampening exists.

C. Rotational Frequency: The revolutions per unit of time usually expressed as revolutions per minute.

D. Critical Frequency: Same as resonant frequency for the rotating elements or the installed machine and base.

E. Peak Vibration Velocity: The root mean square average of the peak velocity of the vibrational movement times the square root of 2 in inches per second.

F. Rotational Speed: Same as rotational frequency.

G. Maximum Excitation Frequency: The excitation frequency with the highest vibration velocity of several excitation frequencies that are a function of the design of a particular machine.

H. Critical Speed: Same as critical frequency.

I. Free Field Noise Level: Noise measured without any reflective surfaces (an idealized situation); sound pressure levels at 3 feet from the source unless specified otherwise.

1.04 SYSTEM DESCRIPTION

A. General:
   1. Provisions specified under each technical equipment specification prevail over and supersede conflicting provisions as specified in this Section.

2. Provide equipment and parts that are suitable for stresses which may occur during fabrication, transportation, erection, and operation.
3. Provide equipment that has not been in service prior to delivery, except as required by tests.
4. Like parts of duplicate units are to be interchangeable.
5. When 2 or more units of equipment for the same purpose are required, provide products of same manufacturer.
6. Equipment manufacturer's responsibility extends to selection and mounting of gear drive units, motors or other prime movers, accessories, and auxiliaries required for proper operation.
7. When necessary, modify manufacturer's standard product to conform to specified requirements or requirements indicated on the Drawings and contained in Laws and Regulations.

B. Material Requirements:
1. Materials: Suitable for superior corrosion resistance and for services under conditions normally encountered in similar installations.
2. Dissimilar Metals: Separate contacting surfaces with dielectric material.

C. Power Transmission Systems:
1. Power Transmission Equipment: V-belts, sheaves, shaft couplings, chains, sprockets, mechanical variable-speed drives, variable frequency drives, gear reducers, open and enclosed gearing, clutches, brakes, intermediate shafting, intermediate bearings, and U-joints are to be rated for 24 hour-a-day continuous service or frequent stops-and-starts intermittent service, whichever is most severe, and sized with a minimum service factor of 1.5.
   a. Apply 1.5 service factor to nameplate horsepower and torque of prime source of power and not to actual equipment loading.
   b. Apply service factors higher than 1.5 when recommended for continuous 24 hour-per-day operation and shock loadings specified in AGMA 6010-E88, other applicable AGMA standards, or other applicable referenced standards.
   c. When manufacturer recommends service factor greater than 1.5, manufacturer's recommendation takes precedence.

D. Vibration:
1. Resonant Frequency: Ensure there are no natural resonant torsional, radial, or axial frequencies within 25 percent above or below the operating rotational frequencies or multiples of the operating rotational frequencies that may be excited by the equipment design.
2. Design, balance and align equipment to meet the vibration criteria specified in Section 15958.

E. Equipment Mounting and Anchoring:
1. Mount equipment on cast iron or welded steel bases with structural steel support frames. Utilize continuous welds to seal seams and contact edges between steel members. Grind welds smooth.
2. Provide bases and supports with machined support pads, dowels for alignment or mating of adjacent items, adequate openings to facilitate grouting, and openings for electrical conduits.
3. Provide jacking screws in bases and supports for equipment weighing over 1,000 pounds.
4. Anchor equipment base to concrete pad. Determine number, size, type, and location of bolts, anchor bolts, or other connections.
5. Provide bolt sleeves for anchor bolts for heavy equipment. Adjust bolts to final

location and fill sleeve with non-shrink grout.

F. Structural Design:
   1. For all equipment provide seismic calculations in accordance with Section 01612 and wind calculations in accordance 01614.

1.05 SUBMITTALS

A. Product Data:
   1. For each item of Equipment:
      a. Design features.
      b. Load capacities.
      c. Efficiency ratings.
      d. Material designations by UNS alloy number or ASTM Specification and Grade.
      e. Data needed to verify compliance with the Specifications.
      f. Catalog data.
      g. Name plate data.
      h. Clearly mark submittal information to show specific items, materials and accessories or options being furnished.
   2. Gear Reduction Units:
      a. Engineering information per applicable AGMA standards.
      b. Gear mesh frequencies.

B. Shop Drawings:
   1. Drawings for Equipment:
      a. Drawings that include outline drawings, cut-away drawings, parts lists, material specification lists, and other information required to substantiate that proposed equipment complies with specified requirements.
   2. Outline drawings showing equipment, driver, driven equipment, pumps, seal, motor(s) or other specified drivers, variable frequency drive, shafting, U-joints, couplings, drive arrangement, gears, baseplate or support dimensions, anchor bolt sizes and locations, bearings, and other furnished components.
   3. Installation and check-out instructions including leveling and alignment tolerances, grouting, lubrication requirements, and initial start-up procedures.
   4. Wiring, control schematics, control logic diagrams and ladder logic or similar for computer based controls.
   5. Recommended or normal operating parameters such as temperatures and pressures.
   6. Alarm and shutdown setpoints for all controls furnished.

C. Calculations:
   1. Calculations and other information to substantiate base plates, supports, and anchor bolts meet minimum design strength requirements.
   2. Bearing L_{10} life calculations in accordance with AFBMA 9 or AFBMA 11 calculation methods for drivers, pumps, gears, shafts, motors, and other drive line components with bearings.
   3. Calculations and other information to substantiate that operating rotational frequencies meet the requirements of this Section.
   4. Torsional Analysis of Power Transmission Systems: When torsional analysis specified in the equipment Sections, provide:
      a. Sketch of system components identifying physical characteristics including mass, diameter, thickness, and stiffness.
      b. Results of analysis including first and second critical frequencies of system components and complete system.

5. Seismic Connection calculations for equipment and support connection details demonstrating compliance with specified structural design requirements in section 01612 and 01614.
6. Seismic and wind anchoring calculations for all piping, mechanical and electrical supports including manufactured standard supports and any support referencing typical details included with the contract drawings.
7. Require Professional Engineer registered in state where Project is located to stamp and sign calculations.

D. Quality Control Submittals:
1. Source quality control reports and certified test data as specified in Section 15958.
2. Submit factory test reports before shipment.
3. Certified static and dynamic balancing reports for rotating equipment.
4. Field quality control reports and test data as specified in Section 15958.
5. Start-up Plan: Proposed plan for field testing equipment as specified in Section 01756.
6. Certificate of Proper Installation: As specified in Section 01756.
7. Submit material test reports a specified in the equipment sections.

E. Operation and Maintenance Manuals:
1. As specified in Section 01782.
2. Submit prior to training of OWNER's personnel.
3. Make available at project site complete copy of manuals for use by field personnel and ENGINEER during start-up and testing of equipment.
4. Include manufacturer and model number of every bearing; include calculated ball pass frequencies of the installed equipment for both the inner and outer raceways.
5. Include motor rotor bar pass frequencies.

1.06 QUALITY ASSURANCE

A. Qualifications: Equipment manufacturer and system component manufacturers to have a minimum of 5 years experience in the design, manufacture, and assembly of the specified equipment and components with an established record of successful operation of such equipment and components.

B. References: Provide references from a minimum of 3 installations currently operating the same model equipment in continuous service for a minimum of 2 years under similar operating conditions. Reference information shall include location, service, contact person, and contact phone number.

C. Manufacturer's Field Service:
1. Furnish services of authorized representative specially trained in installation of equipment.
a. Visit project site and perform tasks necessary to certify installation.
b. Furnish Certificate of Proper Installation as specified in Section 01756.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping:
1. Equipment: Pack in boxes, crates, or otherwise protect from damage and moisture, dust, or dirt during shipment, handling, and storage.
2. Bearings: Separately pack or otherwise suitably protect during transport.
3. Spare Parts: Deliver in boxes labeled with contents, equipment to which spare parts belong, and name of CONTRACTOR.

B. Storage:
   1. Equipment Having Bearings: Store in enclosed facilities. Rotate units at least once per month or more often as recommended by the manufacture to protect rotating elements and bearings.
   2. Gear Boxes: Oil filled or sprayed with rust preventive protective coating.

C. Protection:
   1. Equipment: Protect equipment from deleterious exposure.
   2. Painted Surfaces: Protect against impact, abrasion, discoloration, and other damage.

1.08 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Equipment for project is to be suitable for performance in wastewater treatment plant environment and under following conditions:
      a. Ambient Temperatures: 0 to 110 degrees Fahrenheit.
      b. Relative Humidities: 30 to 100 percent.
      c. Site Elevation: About -10 to 10 feet above mean sea level.

1.09 SEQUENCING AND SCHEDULING

A. Equipment Anchoring: Obtain from equipment manufacturers' anchoring material and templates or setting drawings in time for anchors to be cast-in-place when concrete is placed.

B. Coordinate details of equipment with other related parts of the Work, including verification that structures, piping, wiring, and equipment components are compatible.

C. General Start-up and Testing of Equipment:
   1. Perform general start-up and testing procedures after operation and maintenance manuals for equipment have been received.
   2. Conduct functional testing of mechanical or electrical systems when each system is substantially complete and after general start-up and testing procedures have been successfully completed.
   3. Functional testing requirements as specified in Sections 01756, 15958 and the equipment sections.

1.10 WARRANTY

A. Warranty: Minimum warranty for all equipment to be free of defects in material and workmanship for 1 year from the date of provisional acceptance for on-going municipal operational use of the equipment by the OWNER. Warranty shall cover parts and labor. Provide longer warranties when specified in the individual equipment sections.

B. Where warranty exceeds 1 year, manufacturer’s warranty shall be issued in the OWNER’s name beginning on the date of provisional acceptance for on-going municipal operational use of the equipment by the OWNER.

C. **Provisional acceptance for on-going municipal operational use** shall require substantial completion for those elements to be utilized to maintain municipal operations during construction; pass all acceptance testing and all related punch list items shall be completed to the satisfaction of the ENGINEER and OWNER; and the

OWNER shall agree in writing to provisionally accept those elements before operational transitioning occurs. Provisional acceptance is limited to those elements described in the written acceptance from the OWNER.

1.11 MAINTENANCE

A. Special Tools:
   1. When specified, provide special tools required for operation and maintenance.
   2. Mark or tag and list such tools in maintenance and operations instructions. Describe use of each tool.

B. Spare Belts:
   1. When spare belts are specified, furnish 1 spare belt for every different type and size of belt-driven unit.
      a. Where 2 or more belts are involved, furnish matched sets.
      b. Identify as to equipment, design, horsepower, speed, length, sheave size, and use.
      c. Package in boxes labeled with identification of contents.

C. Spare Parts:
   1. Assume responsibility until turned over to OWNER at substantial completion unless otherwise directed by the Construction Manager.
   2. Store in enclosed facilities.
   3. Furnish itemized list and match identification tag attached to every part.
   4. List parts by generic title and identification number.
   5. Furnish name, address, and telephone number of supplier and spare parts warehouse.

PART 2 PRODUCTS

2.01 MATERIALS

A. Ferrous Materials:
   1. Steel for Members used in Fabrication of Assemblies: ASTM A 36.
   2. Iron Castings: Tough, close-grained gray iron, free from blow-holes, flaws, and other imperfections conforming to ASTM A 48.
   3. Galvanized Steel Sheet: Minimum 0.0635 inch (16 gauge), ASTM A 526.
   4. Expanded Metal: ASTM A 36, 13 gauge, ½ inch flat pattern expanded metal.

B. Nonferrous Materials:
   1. Stainless Steel: Type 304 or 316 as specified; provide L grade where welding required.
   2. Bronze Which Contacts Liquid: Composition of not more than 2 percent aluminum nor more than 6 percent zinc; UNS Alloy C83600, C92200 or C92700 in accordance with ASTM B 62, B-61, B-505, or B-584, when not specified otherwise.

C. Dielectric Materials for Separation of Dissimilar Metals:
   1. Neoprene, bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other materials.

D. Anchors Bolts: As Recommended by the Manufacturer; minimum 0.5 inch diameter.

2.02 SHAFT COUPLINGS

A. General:
   1. Type and Ratings: Provide nonlubricated type, designed for not less than 50,000 hours of operating life.
   2. Sizes: Provide as recommended by manufacturer for specific application, considering horsepower, speed of rotation, and type of service.
   3. Use: Use of couplings specified in this Section does not relieve CONTRACTOR of responsibility to provide precision alignment of driver-driven units as required by equipment manufacturer and alignment criteria specified elsewhere in this section.
   4. Manufacturers: One of the following or equal:
      a. Lovejoy.
      b. Dodge.
      c. T.B. Woods.

B. Shaft couplings for close coupled electric motor driven equipment 1/2 horsepower or larger and subject to sudden torque reversals:
   1. Provide flexible couplings designed to accommodate angular misalignment, parallel misalignment, and end float.
   2. Manufacture flexible component of coupling from synthetic rubber, built up with duck and wire reinforcement with synthetic tension members bonded together in rubber.
   3. Attach flexible component to flanges with clamping rings and cap screws. Attach flanges to shafts with taper-lock bushings which provide equivalent of shrunk-on fit.
   4. Do not allow metal-to-metal contact between driver and driven equipment.
   5. Examples of Loads Where Sudden Torque Reversals may be Expected:
      a. Reciprocating pumps, blowers, and compressors.
      b. Conveyor belts.
      c. Reversing equipment.

C. Shaft couplings for direct connected electric motor driven equipment 1/2 horsepower or larger and subject to normal torque, non-reversing applications:
   1. Provide flexible couplings designed to accommodate shock loading, vibration, and shaft misalignment or offset.
   2. Provide preloaded neoprene cylinder type couplings.
   3. Connect stub shafts through collars or round flanges, firmly keyed to their shafts with neoprene cylinders held to individual flanges by through pins.

D. Spacer Couplings: Where cartridge type mechanical seals or non-split seals are specified, provide a spacer type coupling of sufficient length to remove the seal without disturbing the driver or driven equipment mountings unless noted otherwise in the individual equipment specifications.

E. Specialized Couplings: Where requirements of equipment dictate specialized features, supply coupling recommended for service by manufacturer.

2.03 STUFFING BOX, SEAL CHAMBER, AND SHAFT SEALS

A. General:
   1. Unless otherwise noted in the equipment section, provide cartridge type, double mechanical shaft seals for pumps.
   2. Provide a stuffing box large enough for a double mechanical seal.
   3. Where packing is specified, provide stuffing box large enough to receive a double mechanical seal.
   4. Provide seal or packing flush connections, 3/4 inch size unless another size is

indicated on the Drawings. Provide and route leakage drain line to nearest equipment floor drain indicated on the Drawings.

5. For pumps with packing, design packing gland to allow adjustment and repacking without dismantling pump except to open up packing box.

B. Packing: When specified in the equipment section of the specifications, provide the following type of packing:
   1. Wastewater, Water, and Sludge Applications:
      a. Asbestos free.
      b. PTFE (Teflon) free.
      c. Braided graphite.
      d. Manufacturers: One of the following or equal:
         1) Chesterton, 1400.
         2) John Crane Inc., equivalent product.
   2. Drinking Water Service:
      a. Approved by the Food and Drug Administration (FDA) or National Sanitation Foundation (NSF).
      b. Asbestos free.
      c. Material: Braided PTFE (Teflon).
      d. Manufacturers: One of the following or equal:
         1) Chesterton, 1725.
         2) John Crane, Inc., equivalent product.

C. Mechanical Seals: Provide seal types specified in the equipment sections and as specified herein.
   1. Provide seal types meeting the following requirements:
      a. Balanced hydraulically.
      b. Spring: Stationary, out of pumping fluid, Hastelloy C; Type 316 stainless steel for split seals.
      c. O-Ring: Viton 747.
      d. Gland: Type 316L stainless steel.
      e. Set Screws: Type 316L stainless steel.
      f. Hard Face: Reaction bonded, Silicon Carbide.
      g. Soft Face: Carbon, Union Carbide 658 RC.
      h. Seal designed to withstand 125 pounds per square inch gauge minimum differential pressures in either direction; no requirement for seal buffer pressure to be maintained when pump is not operational even though process suction head may be present in pump.
   2. Cartridge Type Single Mechanical: Manufacturers: One of the following or equal:
      a. Chesterton, 155.
      b. John Crane, 88 SRS Series.
   3. Cartridge Type Double Mechanical: Manufacturers: One of the following or equal:
      a. Chesterton, 225.
      b. John Crane, 88 RS Series.
   4. Split Face Single Mechanical: Manufacturers: One of the following or equal:
      a. Chesterton, 442 (single).
      b. John Crane, 37 (single).

2.04 GEAR REDUCTION UNITS

A. Type: Helical or herringbone, unless otherwise specified.

B. Design:
   1. Made of alloys treated for hardness and for severe service.

2. AGMA Class II service.
    a. Use more severe service condition when such is recommended by unit's manufacturer.
3. Cast iron housing with gears running in oil.
4. Anti-friction bearings.
5. Thermal horsepower rating based on maximum horsepower rating of prime mover not actual load.
6. Manufactured in accordance with applicable AGMA standards.

C. Planetary gear units are not to be used.

2.05 BELT DRIVES

A. Sheaves:
1. Separately mounted on bushings by means of at least 3 pull-up bolts or cap tightening screws.
2. When 2 sheave sizes are specified, provide separate belts sized for each set of sheaves.
3. Statically balanced for all; dynamically balanced for sheaves that operate at peripheral speed of more than 5,500 feet per minute.
4. Key bushings to drive shaft.

B. Belts: Anti-static type when explosion-proof equipment or environment is specified.

C. Manufacturers: One of the following or equal:
1. Dodge, Dyna-V belts with matching Dyna-V sheaves and Taper-Lock bushings.
2. Woods's, Super-V belts with matching Sure-Grip sheaves and Sure-Grip bushings.

2.06 BEARINGS

A. Type: Oil or grease lubricated, ball or roller antifriction type, of standard manufacture.

B. Oil Lubricated Bearings: Provide either pressure lubricating system or separate oil reservoir splash type system.
1. Oil Lubrication Systems: Sized to safely absorb heat energy normally generated in bearings under maximum ambient temperature of 60 degrees Celsius; provide external cooler when required, air cooled if water cooling source not indicated on the Drawings. Equip with filler pipe and external level gauge.

C. Grease Lubricated Bearings, Except Those Specified to Be Factory Sealed: Fit with easily accessible grease supply, flush, drain, and relief fittings.
1. Lubrication Lines and Fittings:
    a. Lines: Minimum 1/4 inch diameter stainless steel tubing.
    b. Multiple Fitting Assemblies: Mount fittings together in easily accessible location.
    c. Use standard hydraulic type grease supply fittings.
        1) Manufacturer:
            a) Alenite
            b) Zurk.
            c) or equal.

D. Ratings: Rated in accordance with AFBMA 9 or AFBMA 11 for L_{10} rating life of not less than 50,000 hours.
1. Higher ratings, when specified in other Sections, supersede preceding

requirement.

2.07 SAFETY GUARDS

A. Drive Assemblies: Enclose sprockets, belts, drive chains, gearings, couplings, and other moving parts on drive assemblies in safety enclosures that are in compliance with applicable Laws and Regulations.

B. Shafts: Provide guards that protect personnel from rotating shafts or components within 7.5 feet of floors or operating platforms.

C. Hot Surfaces: Insulate all surfaces with normal operating temperatures above 120 degrees Fahrenheit when surface is within 7.5 feet height from any operating floor or level; insulation thickness such that temperature is below 120 degrees; cover insulation with moisture-proof protective jacket; insulation Type 3 and cover Type 5 as specified in Section 15082.

D. Guard Requirements:
   1. Allow visual inspection of moving parts without removal.
   2. Allow access to lubrication fittings.
   3. Prevent entrance of rain or dripping water for outdoor locations.
   4. Size belt and sheave guards to allow for installation of sheaves 15 percent larger and addition of one belt.

E. Materials:
   1. Sheet Metal: Carbon steel, 12 gauge minimum thickness, hot-dip galvanized after fabrication.
   2. Fasteners: Type 304 stainless steel.

2.08 SPRING VIBRATION ISOLATORS

A. Design Requirements:
   1. Telescopic top and bottom housing with vertical stabilizers to resist lateral and vertical forces.
   2. Use steel coil springs.
   3. Design vibration isolators in accordance with seismic design criteria as specified in Section 01612.

B. Performance Requirements: Minimum spring deflection of 1/2 inch under static load and capable of limiting transmissability to 10 percent maximum at design operating load.

C. Manufacturers: One of the following or equal:
   1. California Dynamics Corporation, Type RJSD.
   2. Mason Industries, equivalent product.

D. Materials:
   1. Fabricate isolators using welded steel or shatterproof ductile iron in accordance with ASTM A 536 Grade CS-45-12.
   2. Spring Steel: ASTM A 125.

2.09 FABRICATION

A. Nameplates:

1. Engraved or stamped on Type 304 stainless steel and fastened to equipment at factory in an accessible and visible location.
2. Indicate Following Information as Applicable:
   a. Manufacturer's name.
   b. Equipment model number and serial number.
   c. Maximum and Normal rotating speed.
   d. Horsepower.
   e. Rated capacity.
   f. Service class per applicable standards.
3. Nameplates for Pumps: Include:
   a. Rated total dynamic head in feet of fluid.
   b. Rated flow in gallons per minute.
   c. Impeller, gear, screw, diaphragm, or piston size.
4. Gear Reduction Units: Include:
   a. AGMA Class of service.
   b. Service factor.
   c. Input and output speeds.

B. Bolt Holes in Equipment Support Frames: Do not exceed bolt diameter by more than 25 percent, up to limiting maximum diameter oversize of 1/4 inch.

C. Shop Finishing:
1. Provide coating as follows:
   a. Bases and Support Frames That Contact Concrete or Other Material: Paint contacting surfaces with minimum of 2 coats of zinc chromate primer before installation or grouting.
   b. Shop Primer for Steel and Iron Surfaces, Unless Specified Otherwise:
      1) Manufacturers: One of the following or equal:
         a) Ameron, Amercoat 185 Universal Primer.
         b) Cook, 391-N-167 Barrier Coat.
         c) Kop-Coat, Pug Primer.
         d) Tnemec, 37-77 Chem-Prime.
         e) Valspar, 13-R-28 Chromox Primer.
   c. Coat machined, polished, and nonferrous surfaces which are not to be painted with rust-preventive compounds.
      1) Manufacturers: One of the following or equal:
         a) Houghton, Rust Veto 344.
         b) Rust-Oleum, R-9.
   d. Coating for Ferrous Metal Surfaces, Except Stainless Steel: High solids polyamine epoxy.
   e. Finish Painting Pumps and Motors: Shop finish paint with manufacturer's premium protective coating system for sever corrosive environments.

2.10 SOURCE QUALITY CONTROL

A. As specified in Section 15958 for testing requirements and the individual equipment sections of the Specifications.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect all components for shipping damage, conformance to specifications, and proper torques and tightness of fasteners.

3.02 FIELD QUALITY CONTROL

A. Test equipment as specified in Section 15958 and the individual equipment Section of the Specifications.

B. Perform operational testing as required by Section 01756.

3.03 MANUFACTURER'S REPRESENTATIVE

A. Field Check-out: Before field testing and start-up, provide services of factory trained field service representative to certify the equipment has been installed, aligned and checked in accordance with the manufacturers instructions and the Specifications.

B. Testing: Provide services of factory trained representative to observe and advise the CONTRACTOR during field quality control testing.

C. Training: When training is specified, provide services of factory trained representative to perform training as specified in Section 01756.

END OF SECTION

SECTION 15052

BASIC PIPING MATERIALS AND METHODS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Basic piping materials and methods.

B. Related Sections:
   1. Section 01140 - Work Restrictions.
   2. Section 09960 - High Performance Coatings.
   3. Section 15956 - Piping Systems Testing.

1.02 REFERENCES

A. American Society of Testing and Materials (ASTM):
   1. A 53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
   2. A 106 - Specification for Seamless Carbon Steel Pipe for High-Temperature Service.
   3. D 2240 - Test Method for Rubber Property – Durometer Hardness.

1.03 DEFINITIONS

A. Aboveground Piping: Piping within buildings, tunnels, or other structures without regard to elevation of piping, or exposed piping outside buildings and structures.

B. Underground Piping: Piping actually buried in soil or cast in concrete.

C. Underwater Piping: Piping below tops of walls in basins or concrete tanks containing water.

D. Wet Wall: Wall with water on at least one side.

1.04 SYSTEM DESCRIPTION

A. Piping Drawings:
   1. Except in details, piping is indicated diagrammatically. Not every offset and fitting, or structural difficulty that may be encountered has been indicated on the Drawings. Sizes and locations are indicated on the Drawings.
   2. Perform minor modifications to piping alignment where necessary to avoid structural, mechanical, or other type of obstructions that cannot be removed or changed.
      a. Modifications are intended to be of minor scope, not involving a change to the design concept or a change to the Contract Price or Contract Times.

B. Performance Requirements:
   1. Venting Piping Under Pressure:
      a. Lay piping under pressure flat or at a continuous slope without air traps, unless otherwise indicated on the Drawings.

b. Install plug valves as air bleeder cocks at high points in piping. Provide one inch plug valves for water lines, and 2 inch plug valves for sewage and sludge lines, unless otherwise indicated on the Drawings.
c. Provide additional pipe taps with plug cocks and riser pipes along piping as required for venting during initial filling, disinfecting, and sampling.
d. Before piping is placed into service, close plug valves and install plugs. Protect plugs and plug valves from corrosion in accordance with Section 09960.

2. Restraining Piping:
   a. Restrain piping at valves and at fittings where piping changes direction, changes sizes, and at ends.
      1) When piping is underground, use concrete thrust block or mechanical restraints.
      2) When piping is aboveground or under water, use mechanical or structural restraints.
      3) Determine thrust forces by multiplying the nominal cross sectional area of the piping by design test pressure of the piping.
   b. Provide restraints with ample size to withstand thrust forces resulting from test pressures.
      1) During testing, provide suitable temporary restraints where piping does not require permanent restraints.
   c. Place concrete thrust blocks against undisturbed soil. Place concrete so piping joints, fittings, and other appurtenances are accessible for assembly and disassembly.
   d. Provide underground mechanical restraints where specified in the Piping Schedule.
3. Connections to Existing Piping:
   a. Expose existing piping to which connections are to be made with sufficient time to permit, where necessary, field adjustments in line, grade, or fittings.
      1) Protect domestic water supplies from contamination.
         a) Make connections between domestic water supply and other water systems in accordance with requirements of public health authorities.
         b) Provide devices approved by OWNER of domestic water supply system to prevent flow from other sources into the domestic supply system.
   b. Make connections to existing piping and valves after sections of new piping to be connected have been tested and found satisfactory.
   c. Provide sleeves, flanges, nipples, couplings, adapters, and other fittings needed to install or attach new fittings to existing piping and to make connections to existing piping.
4. Connections to In-service Piping:
   a. Shutdown in-service piping in accordance with Section 01140.
      1) Establish procedures and timing in a conference attended by CONTRACTOR, ENGINEER, and OWNER of the in-service piping.
   b. Where operation and maintenance of existing facilities require that a shutdown be made during hours other than normal working hours, perform the related work in coordination with the hours of actual shutdown.
   c. Additional provisions regarding shutdown of existing facilities are specified in Section 01140 Work Restrictions.
5. Connections at Dissimilar Metals:
   a. Connect ferrous and nonferrous metal piping, tubing, and fittings with dielectric couplings especially designed for the prevention of chemical reactions between dissimilar metals.

b. Nonferrous metals include aluminum, copper, and copper alloys.

PART 2 PRODUCTS

2.01 ESCUTCHEONS

A. Manufacturers: One of the following or equal:
   1. Dearborn Brass Company, Model Number 5358.
   2. Keeney Manufacturing Company, Model Number 102 or Number 105.
   3. Beaton and Corbin, Model Number 1 or Number 13.

B. Material: Chrome plated steel plate.

2.02 LINK TYPE SEALS

A. Manufacturers: One of the following or equal:
   1. Calpico, Inc.
   2. Thunderline Corporation, Link-Seal.

B. Characteristics:
   1. Modular mechanical type, consisting of interlocking neoprene or synthetic rubber links shaped to continuously fill the annular space between the pipe and wall opening.
   2. Assemble links solely with stainless steel bolts and nuts to form a continuous rubber belt around the pipe.
   3. Provide a stainless steel or glass reinforced nylon pressure plate under each bolt head and nut. Isolate pressure plate from contact with wall sleeve.

2.03 GASKETS

A. Gaskets for Non-steam Cleaned Ductile Iron and Steel Piping:
   1. Suitable for pressures equal to and less than 150 pounds per square inch gauge, temperatures equal to and less than 250 degrees Fahrenheit, and raw sewage service.
   2. Gasket Material:
      a. Neoprene elastomer with minimum Shore A hardness value of 70.
      b. Reinforcement: Inserted 13 ounce nylon fabric cloth for pipes 20 inch or larger.
      c. Thickness: Minimum 3/32 inch thick for less than 10 inch pipe; minimum 1/8 inch thick for 10 inch and larger pipe.
   3. Manufacturers: One of the following or equal:
      a. Pipe 20 inches in Diameter and Larger:
         1) Garlock, Style 8798.
         2) John Crane, similar product.
      b. Pipe less than 20 inches in Diameter:
         1) Garlock, Style 7797.
         2) John Crane, similar product.

B. Gaskets for Flanged Joints in Polyvinyl Chloride and Polyethylene Piping:
   1. Suitable for pressures equal and less than 150 pounds per square inch gauge, with low flange bolt loadings, temperatures equal and less than 120 degrees Fahrenheit, polymer, chlorine, caustic solutions, and other chemicals, except

chemicals which liberate free fluorine including fluorochemicals and gaseous fluorine.

2. Material:
   a. Microcellular Teflon outer layers with rigid center layer.
   b. Sealability in accordance with ASTM F37, lass than 0.55 millimeters/hr leakage of iso-octane at 1,000 psi gasket load and 9.8 psig fluid pressure.
3. Manufacturers: One of the following or equal:
   a. Garlock, Style 3545.
   b. John Crane, similar product.

C. Gaskets for Flanged Joints in Ductile Iron, or Steel Water Piping:
1. Suitable for hot or cold water, pressures equal and less than 150 pounds per square inch gauge, and temperatures equal and less than 160 degrees Fahrenheit.
2. Material:
   a. Neoprene elastomer, compressed, non-asbestos fiber reinforcement.
   b. Teflon ring; or teflon envelope with nonasbestos filler.
3. Manufacturers: One of the following or equal:
   a. Bluegard, Style 3300.
   b. Garlock.
   c. John Crane, similar product.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Existing Conditions:
1. Locate and expose existing structures, piping, conduits, and other facilities and obstructions which may affect construction of underground piping before starting excavation for new underground piping and appurtenances.
2. Verify sizes, elevations, locations, and other relevant features of existing facilities and obstructions. Determine conflicts for the construction of the new underground piping and appurtenances.
3. Make piping location and grade adjustments to resolve conflicts between new piping and existing facilities and obstructions.

3.02 WALL AND SLAB PENETRATIONS

A. Provide sleeves for piping penetrations through aboveground masonry and concrete walls, floors, ceilings, roofs, pilasters, columns, piers, and beams unless specified or otherwise indicated on the Drawings.

B. For piping 1 inch in nominal diameter and larger, provide sleeves with minimum inside diameters of 1 inch plus outside diameter of piping. For piping smaller than 1 inch in nominal diameter, provide sleeve of minimum twice the outside diameter of piping.
1. Arrange sleeves and adjacent joints so piping can be pulled out of sleeves and replaced without disturbing the structure.
2. Cut ends of sleeves flush with surfaces of concrete, masonry, or plaster.
3. Conceal ends of sleeves with escutcheons where piping runs through floors, walls, or ceilings of finished spaces within buildings.
4. Seal spaces between pipes and sleeves with link-type seals when not otherwise specified as indicated on the Drawings.

C. Cast couplings or wall pieces in walls for penetrations of buried rigid piping including cast iron, ductile iron, reinforced concrete, and vitrified clay through structures.
   1. Provide couplings or wall pieces with mechanical push-ons, restrained where indicated or required, or similar flexible joints at outside faces of walls.
   2. Provide additional similar joints in piping at transition points between trenches and structure excavations.
   3. For steel piping, single joints may be used in lieu of 2 joints. Locate single joints outside within 2 feet from outside faces of walls.

D. Link Seal: Use 2 link seals where seal is used to seal at wet wall sleeves. Mount one seal on the inside face of the wall and the other on the outside face of the wall. Coordinate the inside diameter of the wall sleeve with the size of the seal to provide watertight sealing.

E. Where not indicated on the Drawings, penetrations for conditions other than those specified under the preceding subparagraphs shall be 1 of the 3 types specified in such subparagraphs found by ENGINEER to be the most suitable for the particular conditions.

3.03 EXPOSED PIPING

A. Install exposed piping in straight runs parallel to the axes of structures, unless indicated otherwise.
   1. Install piping runs plumb and level, unless otherwise indicated on the Drawings. Slope plumbing drain piping with 1/8 inch per foot downward in the direction of flow.

B. Install exposed piping after installing equipment and after piping and fitting locations have been determined.

C. Support piping in accordance with Section 15061.
   1. Do not transfer pipe loads and strain to equipment.

D. In addition to the joints indicated on the Drawings, provide unions, flexible couplings, flanged joints, and other types of joints or means which are compatible with and suitable for the piping system, and necessary to allow ready assembly and disassembly of the piping.

E. Assemble piping without distortion or stresses caused by misalignment.
   1. Match and properly orient flanges, unions, flexible couplings, and other connections.
   2. Do not subject piping to bending or other undue stresses when fitting piping. Do not correct defective orientation or alignment by distorting flanged joints or subjecting flange bolts to bending or other undue stresses.
   3. Flange bolts, union halves, flexible connectors, and other connection elements shall slip freely into place.
   4. Alter piping assembly to fit when proper fit is not obtained.
   5. Install eccentric reducers or increasers with the top horizontal for pump suction piping.

3.04 BURIED PIPING

A. Bury piping with minimum 3 foot cover without air traps, unless otherwise indicated on the Drawings.

B. Where 2 similar services run parallel to each other, piping for such services may be laid in the same trench. Lay piping with sufficient room for assembly and disassembly of joints, for thrust blocks, for other structures, and to meet separation requirements of public health authorities having jurisdiction.

C. Laying Piping:
   1. Lay piping in finished trenches free from water or debris. Begin at the lowest point with bell ends up slope.
   2. Place piping with top or bottom markings with markings in proper position.
   3. Lay piping on an unyielding foundation with uniform bearing under the full length of barrels.
   4. Where joints require external grouting, banding, or pointing, provide space under and immediately in front of the bell end of each section laid with sufficient shape and size for grouting, banding, or pointing of joints.
   5. At the end of each day's construction, plug open ends of piping temporarily to prevent entrance of debris or animals.

3.05 PIPING ALTERNATIVES

A. Provide piping in accordance with this Section, unless indicated on the Drawings or specified otherwise.

B. Alternative Pipe Ratings: Piping with greater pressure rating than specified may be substituted in lieu of specified piping without changes to the Contract Price. Piping of different material may not be substituted in lieu of specified piping.

C. Valves in Piping Sections: Capable of withstanding specified test pressures for piping sections and fabricated with ends to fit piping.

D. For flanged joints, where one of the joining flanges is raised face type, provide a matching raised face type flange for the other joining flange.

3.06 CLEANING

A. Piping Cleaning:
   1. Upon completion of installation, clean piping interior of foreign matter and debris. Perform special cleaning when required by the Contract Documents.

3.07 PIPING SCHEDULE

A. Abbreviations:
   1. The following abbreviations used in the column of test method refer to the respective methods specified in Section 15956.

AM	Air method
GR	Gravity method
HH	High head method
LH	Low head method
SC	Special case

   2. Abbreviations to designate piping include the following:

BSP	Black steel pipe

BRV	Braided Vinyl Tubing
CI	Cast iron
CISP	Cast iron soil pipe
Cl	Class, followed by the designation
CMP	Corrugated metal pipe
CPVC	Chlorinated polyvinyl chloride
DIP	Ductile iron piping
Ga	Gauge, preceded by the designation
GSP	Galvanized steel pipe
NPS	Nominal pipe size, followed by the number in inches
PSIG	Pounds per square inch, gauge
PE	Polyethylene
PVC	Polyvinyl Chloride
RCP	Reinforced concrete low head pressure pipe
Sch.	Schedule, followed by the designation
SS	Stainless steel
VCP	Vitrified clay piping

3. Abbreviations to designate piping joints and fittings include the following:

B&SP	Bell and spigot
FLG	Flanged
GE	Grooved end joint
Mech. Rest.	Mechanically restrained
MJ	Mechanical joint
PO	Push on joint
PVCI	PVC insert fittings with 316 stainless steel clamps.
SCRD	Screwed joint
SW	Solvent weld joint
WLD	Welded joint

4. Abbreviations to designate piping joints and fittings include the following:

CLTE	Coal tar enamel lining
CM	Cement mortar
CTE	Coal tar epoxy lining
CTP	Coal tar pitch
EC	Extruded coating
EPP	Epoxy and polyurethane high performance coating per Section 09960
GL	Glass lining
PE	Polyethylene lining
PEE	Polyethylene encasement
PTW	Plastic tape wrap
PUL	Polyurethane lined

(The PIPING SCHEDULE follows in the next pages.)

END OF SECTION

PIPING SCHEDULE

Process Abbrev.	Service	Nominal Diameter (inches)	Materials	Joints/ Fittings	Test Pressure/ Method	Lining	Coating	Comments
SS	Sanitary Sewer (Gravity)							
	Underground	8	PVC Gravity Sewer Piping SDR-26	PVC Push on SDR-26 Fittings	10 PSIG/LH	None	None	Note 7
SD	Storm Drain							
	Underground	6	PVC AWWA C900 SDR<= 18	PVC Push on Fittings	10 psig/LH	None	None	Note 4,5
D	Drain (Gravity)							
	Underground/vertical piece	8	PVC AWWA C900 SDR<= 18	DI Push on Fittings with flange connection to Sched 80 pipe	10 psig/LH	None	None	Note 4, 5
	Underground	4-6	Schedule 80 PVC	PVC/ Solvent Weld	10 PSIG/LH	None	None	
	Exposed Ell and connection to Screen	8	Schedule 80 PVC	Flanged	10 PSIG/LH	None	EPP	Note 1
3W	Plant Water							
	Underground	4	Schedule 80 PVC	PVC/ Solvent Weld	80 PSIG/HH	None	None	
	Exposed	0.5-4	Schedule 40 GSP	Screwed	80 PSIG/HH	None	EPP	Note 1, 6

PIPING SCHEDULE

Process Abbrev.	Service	Nominal Diameter (inches)	Materials	Joints/ Fittings	Test Pressure/ Method	Lining	Coating	Comments

Notes:

1. All exposed piping shall be painted and/or coated in accordance with Section 09960.
2. All buried piping under concrete slabs and/or structures shall be concrete encased per typical detail P050, unless indicated in writing otherwise.
3. All Piping shall be restrained per Section 15052 – Article 1.04 B.2.
4. Connect flange to C900 pipe with megalug adaptor or equal. Flange connection to Schedule 80 Ell is needed.
5. Provide complete pipe restraint system for all fittings and transition joints including from ductile iron to PVC. Restraints shall be megalug or equal.
6. Transition to GSP at buried valve up through riser section. PE tape wrap GSP pipe for the short portion that is underground.
7. Mandrel and Socket Test Sanitary Sewer per City Standards.

SECTION 15061

PIPE SUPPORTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Supports for pipe, fittings, valves, and appurtenances whether typical details or premanufactured supports.

B. Related Sections:
1. Section 01612 - Seismic Design Criteria
2. Section 01614 – Wind Criteria
3. Section 05120 - Structural Steel.
4. Section 09910 - Paints.
5. Section 09960 - High Performance Coatings.
6. Section 15062 – Preformed Channel Pipe Support System

1.02 REFERENCES

A. American National Standard Institute or Manufacturer's Standardization Society (ANSI/MSS):
1. SP-58 - Standard for Pipe Hangers and Supports - Materials, Design, and Manufacture.
2. SP-69 - Standard for Pipe Hangers and Supports - Selection and Application.

1.03 SYSTEM DESCRIPTION

A. Design Responsibility:
1. The CONTRACTOR providing the pipe support system shall be considered the designer of the support system. Typical details included on the contract documents are for minimum standard for style, size, and materials and shall be used as a guide for the CONTRACTOR in designing the specific pipe supports utilized on the project.
   a. Seismic and Wind Design Criteria: As specified in Section 01612 and 01614 as specified for all pipe supports utilized for the project, including any typical pipe support details included on the contract documents that are actually utilized.
2. All pipe supports shall be minimum 304 stainless steel unless otherwise noted on the drawings.

1.04 SUBMITTALS

A. Shop Drawings: Prepare detailed shop drawings illustrating the layout of the support system and identifying the components of the support system. Include schedule, indicating where supports will be installed, and drawings of pipe support system components.

B. Seismic and wind design calculations and details need to be provided per Section 1.03 above.

C. Furnish Submittals in accordance with Sections 01330 and 15050.

PART 2 PRODUCTS

2.01 PREMANUFACTURED PIPE SUPPORTS

A. See Section 1.04.A.5 for material designation all part numbers on the following supports shall be modified for correct material designation.

B. Concrete Inserts for Pipes under 30 Inch Diameter: ANSI/MSS SP-69 Type 18. Minimum 1,140 pounds capacity with 5/8 inch diameter rod. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 282.

C. Concrete Inserts for Pipe 30 Inch Diameter and Larger: Hot-dip galvanized steel body with 3/4 inch diameter National Coarse zinc plated square nut, anchor insert to steel concrete reinforcement. Manufacturers: One of the following or equal:
   1. Connection Specialties, Inc., Model 6MD350.

D. Hanger Rods: Sized to match suspended pipe hanger, or as indicated on the Drawings. Manufacturers: One of following or equal:
   1. Grinnell, Figure 140.
   2. Bergen-Paterson, Part 5000.
   3. B-Line Systems, Inc., Figure B3205.

E. Hanger Rods, Continuously Threaded: Sized to match suspended pipe hanger, or as indicated on the Drawings. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 146.
   2. Bergen-Paterson, Part BP-5006.

F. Eye Bolts: Welded and rated equal to full load capacity of rod.

G. Welded Eyebolt Rod: Manufacturers: One of the following or equal:
   1. Grinnell, Figure 278.
   2. Bergen-Paterson, Part 5004.
   3. B-Line Systems, Inc., Figure B3210.

H. Adjustable Ring Hangers: ANSI/MSS SP 69 Type 7. Manufacturers: One of the following or equal:
   1. Grinnell.
   2. B-Line Systems, Inc., Figure B3172.

I. Adjustable Clevis Hangers: ANSI/MSS PS 69, Type 1. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 260.
   2. Bergen-Paterson, Part 6750.
   3. B-Line systems, Inc., Figure B3100 or B3105.

J. Adjustable Clevis Hangers for Insulated Pipe: Oversize. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 300.
   2. Bergen-Paterson, Part 6754.
   3. B-Line Systems, Inc. Figure B3108.

K. Single Rod Hangers for Steam Pipe: ANSI/MSS SP 69 Type 43; malleable iron or steel yoke and roller hangers; swivel to allow rotation of yoke on rod. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 181.
   2. B-Line Systems, Inc., Figure B3110.

L. Double Rod Hangers for Steam Pipe: ANSI/MSS SP 69 Type 41: Manufacturers: One of the following or equal:
   1. Grinnell, Figure 171.
   2. B-Line Systems, Inc., Figure B3114.

M. Brackets: ANSI/MSS SP-69 Type 32 with back plate; rated for 1,500 pounds. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 195.
   2. B-Line Systems, Inc., Figure B3066.

N. Standard U-bolt: ANSI/MSS SP-69 Type 24. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 137.
   2. Bergen-Paterson, Part 6510.
   3. B-Line systems, Inc., Figure B3188.

O. Riser Clamps: ANSI/MSS SP-69 Type 8. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 261.
   2. Bergen-Paterson, Part 6302.
   3. B-Line Systems, Inc., Figure B3373.

P. Pipe Clamps: ANSI/MSS SP 69 Type 4. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 212.
   2. Bergen-Paterson, Part 6100.
   3. B-Line Systems, Inc., Figure B3140.

Q. Adjustable Offset Pipe Clamp: Manufacturers: One of the following or equal:
   1. Grinnell, Figure 100.
   2. B-Line Systems, Inc., Figure B3149.

R. Offset Pipe Clamp: Manufacturers: One of the following or equal:
   1. Grinnell, Figure 103.
   2. B-Line Systems, Inc., Figure B3148.

S. Floor Stand or Stanchion Saddles: ANSI/MSS SP-69 Type 37. Provided with U-bolt hold down yokes. Manufacturers: One of the following or equal:
   1. Grinnell, Figure 259.
   2. Bergen-Paterson, Part 6652.
   3. B-Line Systems, Inc., Figure B3090.

T. Spring Supports: Manufacturers: One of the following or equal:
   1. Bergen-Paterson, Part 3200.
   2. Grinnell, Figure B-268.

U. One Hole Pipe Clamps: Manufacturers: One of the following or equal:
   1. Grinnell, Figure 126.
   2. Carpenter and Paterson, Figure 237.

V. Welded Beam Attachment: Manufacturers: One of the following or equal:
   1. Grinnell, Figure 66.
   2. Bergen-Paterson, Part 1047.
   3. B-Line Systems, Inc., Figure B3083.

W. Heavy Pipe Clamp: Manufacturers: One of the following or equal:
   1. Grinnell, Figure 216.
   2. Bergen-Paterson, Part 6101.

X. Anchor Bolts, Flush Shells, Powder Actuated Fasteners, and Concrete Anchors: As specified in Section 05120.

2.02 MATERIALS

A. Pipe Supports:
   1. Stainless Steel (type 304 or 316): Use in all in all areas except where specifically indicated on the Drawings.
   2. Hot-dip Galvanized Steel: Use where specifically indicated on the Drawings
   3. Hot-dip galvanize pipe support after fabrication.
   4. Plastic, Aluminum, FRP and Other Miscellaneous Materials: Use where specifically indicated on the Drawings

B. Fasteners:
   1. As specified in Section 05120.

PART 3 EXECUTION

3.01 INSTALLATION

A. Properly support, suspend or anchor exposed pipe, fittings, valves, and appurtenances to prevent sagging, overstressing, or movement of piping; and to prevent thrusts or loads on or against connected pumps, blowers, and other equipment. The CONTRACTOR shall provide proper supports for piping even if piping supports are not indicated on the drawings.

B. The CONTRACTOR shall follow support typical details and apply support details where applicable at all locations whether specifically called or not on the drawings.

C. Carefully determine locations of inserts. Anchor to formwork prior to placing concrete.

D. Use either epoxy anchors or cast in anchor bolts to anchor equipment and supports.

E. Do not use anchors wedge anchors or anchors relying on deformation of lead alloy.

F. Do not use stud type powder actuated fasteners for securing metallic conduit or steel pipe larger than 1 inch to concrete, masonry, or wood.

G. Suspend pipe hangers from hanger rods. Secured with double nuts.

H. Install continuously threaded hanger rods only where indicated on the Drawings.

I. Use adjustable ring hangers; or adjustable clevis hangers, for 6 inch and smaller diameter pipe.

J. Use adjustable clevis hangers for pipe larger than 6 inches in diameter.

K. Secure pipes with double nutted U-bolts or suspend pipes from hanger rods and hangers.

L. Support Spacing:
   1. Support 2 inch and smaller piping on horizontal and vertical runs at maximum 5 feet on center, unless otherwise specified.
   2. Support larger than 2 inch piping on horizontal and vertical runs at maximum 10 feet on center, unless otherwise specified.
   3. Support exposed polyvinyl chloride and other plastic pipes at maximum 5 feet on center, regardless of size.
   4. Support tubing, copper pipe and tubing, fiber-reinforced plastic pipe or duct, and rubber hose and tubing at intervals close enough to prevent sagging greater than 1/4 inch between supports.
   5. Install support within 2 feet maximum of horizontal and vertical changes in pipe alignment.

M. Install Supports At:
   1. Horizontal bends.
   2. Both sides of flexible pipe connections.
   3. Base of risers.
   4. Floor penetrations.
   5. Connections to pumps, blowers and other equipment.
   6. Valves and appurtenances.

N. Securely anchor plastic pipe, valves, and headers to prevent movement during operation of valves.

O. Anchor plastic pipe between expansion loops and direction changes to prevent axial movement through anchors.

P. Provide ductile iron elbows or tees supported from floors with base fittings where indicated on the Drawings.

Q. Support base fittings with metal supports or when indicated on the Drawings, concrete piers.

R. Size hanger rods, supports, clamps, anchors, brackets, and guides in accordance with ANSI/MSS SP 58 and SP 69.

S. Do not use chains, plumbers' straps, wire, or similar devices for permanently suspending, supporting, or restraining pipes.

T. Support plumbing drainage and vents in accordance with Uniform Plumbing Code.

U. Supports, Clamps, Brackets, and Portions of Support System Bearing Against Copper Pipe: Copper plated, copper throughout, or isolated with neoprene or polyvinyl chloride tape.

V. Where pipe is insulated, install over-sized supports and hangers.

W. Install insulation shield in accordance with ANSI/MSS SP 69, Type 40. Shield shall be

stainless steel unless specified elsewhere.

X. Install riser clamps at floor penetrations and where indicated on the Drawings.

Y. Paint or Coat support system components as specified in Sections 09960 or 09910.

END OF SECTION

SECTION 15075

MECHANICAL IDENTIFICATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Mechanical Identification including the following:
   1. Pipe identification by color and legend.
   2. Special Items.
   3. Identification of equipment and components of systems with paint, brands, tags, and signboards.

B. Related Sections:
   1. Section 01600 - Product Requirements.
   2. Section 01770 - Closeout Procedures.
   3. Section 09960 - High Performance Coatings.

1.02 REFERENCES

A. American National Standards Institute (ANSI):
   1. A 13.1 Scheme for the Identification of Piping Systems.

1.03 SUBMITTALS

A. Submit Following:
   1. Product Data.
   2. Samples.
   3. Manufacturer's Installation Instructions.
   4. Submit following as specified in Section 01770:
      a. Operation and Maintenance Data.
      b. Warranty.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with CalOSHA.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Snap-on Markers: One of following with for up to 4 inch pipe or covering, or 5 inch high letters for 5 inch or larger pipe or cover:
   1. Brady Bradysnap-On B-915.
   2. Seton Setmark.

2.02 MATERIALS

A. Pipe Markers: Snap on, suitable for outdoor application from -40 degrees to 180 degrees Fahrenheit; meet ANSI A 13.1 requirements.
   1. Lettering:

Nominal Pipe Diameter	Lettering Size
Less than 1.5	½ inch
1.5 inches to 2 inches	¾ inch
2.5 inches to 6 inches	1-1/4 inches
8 inches to 10 inches	2-1/2 inches
over 10 inches	3-1/2 inches

2. Marker Colors:

Service	Lettering	Background
Flammables, chemicals, toxics	Black	Yellow
Water, nontoxic solutions or low hazard liquids	White	Green
Nonflammable or nontoxic gases	White	Blue
Fire quenching fluids (foam, fire water, CO_2 Halon)	White	Red

B. Paint: As specified in Section 09960.

C. Pipe Identification Tags: Aluminum or stainless steel with stamped-in 1/4 inch high identifying lettering.

D. Pipe Identification Tag Chains: Aluminum or stainless steel.

2.03 SPECIAL ITEMS

A. In addition, special painting of following items will be required:

ITEM	COLOR
Valve handwheels and levers	Red
Hoist hooks and blocks	Yellow and black stripes
Steel guard posts	In accordance with standard details.

B. Paint minimum 2 inches high numbers on or adjacent to accessible valves, pumps, flow-meters, and other items of equipment which are identified on Drawings or in Specifications by number.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify satisfactory conditions of substrate for applying identification.

B. Verify that conditions are satisfactory for installation and application of products as specified in Section 01600.

3.02 PREPARATION

A. Prepare and paint surfaces as specified in Section 09960.

B. Prepare surface in accordance with product manufacturer's instructions.

3.03 PIPING IDENTIFICATION

A. Identify all exposed piping and valves and piping and valves in accessible chases with lettering or tags designating service of each piping system with flow directional arrows and color code.
   1. Coated or Painted Piping 3 inches and larger shall have pipe designation and flow arrows painted onto piping with stencil.
   2. Piping 3/4 to 2-1/2 inches shall have snap on markers.
   3. Pipe smaller than 5/8 shall have metal tag markers
   4. All Insulated piping have snap on markers over the insulation jacket.
   5. Chemical piping shall have snap on markers or metal tags.

B. Color Code:
   1. Paint piping scheduled to be color coded completely with specified colors.
   2. Paint segments of pipe specified to be unpainted with specified coding color long enough to accommodate required lettering and arrows.

C. Paint piping specified to be painted to match adjacent surfaces, unless otherwise directed.

D. Lettering and Flow Direction Arrows:
   1. Stencil lettering on painted bands or use snap-on markers on pipe to identify pipe. When stenciling, stencil 3/4 inch high letters on 3/4 through 4 inch pipe or coverings, or 5 inch high letters on 5 inch and larger pipe or coverings.
   2. Provide lettering and flow direction arrows near equipment served, adjacent to valves, both sides of walls and floors where pipe passes through, at each branch or tee, and at intervals of not more than 50 feet in straight runs of pipe.

E. Where scheduled, space 6 inch wide bands along stainless steel pipe at 10 foot intervals and other pipe at 5 foot intervals.

F. Label chemical tank fill pipelines at locations which are visible from chemical fill stations.

G. Metal Tags:
   1. Where outside diameter of pipe or pipe covering is 5/8 inch or smaller, provide metal pipe identification tags instead of lettering.
   2. Fasten pipe identification tags to pipe with chain.
   3. Where tags are used, color code pipe as scheduled.

3.04 APPLICATION

A. Identify piping with legend markers, directional arrow markers, and number markers; use self adhesive arrow roll tape to secure ends of piping markers and indicate flow direction.

B. Provide legend markers, directional arrow markers and number markers where piping passes through walls or floors, at piping intersections and at maximum 15 foot spacing on piping runs.

C. Provide piping marker letters and colors as scheduled.

D. Place markers on piping so they are visible from operator's position in walkway or working platform near piping. Locate markers along horizontal centerline of pipe, unless better visibility is achieved elsewhere.

3.05 PIPING COLOR CODE AND MARKER SCHEDULE

Service Fluid	Pipe Color	Marker Legend
Drain	Dark Brown	Drain
Plant Water (lines downstream from backflow prevention unit	Dark Purple	PW

END OF SECTION

SECTION 15111

BALL VALVES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Metal body ball valves and plastic body ball valves.

B. Related Sections:
   1. Section 13445B - Pneumatic Controllers and Control Valves.

1.02 REFERENCES

A. American Water Works Association (AWWA):
   1. C 507 Standard for Ball Valves 6 Inch Through 48 Inch.

1.03 SYSTEM DESCRIPTION

A. General: Unless otherwise indicated on the Drawings use:
   1. Metal body ball valves on metal pipelines,
   2. Plastic body ball valves on plastic pipelines,

1.04 SUBMITTALS

A. Product Data.

B. Certifications:
   1. Metal Body Ball Valves: Submit affidavit of compliance with AWWA C 507.
   2. Sludge Cake Ball Valves: Submit affidavit of satisfactory completion of shell test and seat test.

1.05 WARRANTY

A. As specified in Section 15050.

PART 2 PRODUCTS

2.01 METAL BODY BALL VALVES

A. Manufacturers: One of the following or equal:
   1. Lunkenheimer Company.
   2. MARPAC, Inc.

B. General.
   1. Type: Non-lubricated, and capable of sealing in either flow direction.
   2. Conform to AWWA C 507.
   3. Stem Packing: Manually adjustable while valve is under pressure.
   4. Temperature Limits: Suitable for operation between minus 20 and 350 degrees Fahrenheit.

C. Materials:

1. Valves in Copper Lines: Bronze body with solder ends.
2. Valves in Ductile Iron Piping: Ductile iron or cast steel bodies
3. Valves in Stainless Steel Piping: 316 Stainless steel bodies and ball.
4. Ends as follows:
    a. Threaded for sizes 3 inch and smaller.
    b. Flanged for sizes larger than 3 inch.
5. Ball: Type 304 or Type 316 stainless steel.
6. Seats: TFE.
7. Stem Seals: TFE or Viton.

2.02 PLASTIC BODY BALL VALVES

A. Manufacturers: One of the following or equal:
    1. Asahi America.
    2. Chemtrol Division, NIBCO Inc.
    3. Spears

B. General:
    1. Type: Non-lubricated and capable of sealing in either flow direction and manufactured per ASTM F 1970
    2. End Connections: True union.
    3. Operator Handle: High Impact Polypropylene Handle

C. Materials:
    1. Body: Schedule 80 Chlorinated Polyvinyl chloride (CPVC) full bore design.
    2. Ball: Chlorinated Polyvinyl chloride (CPVC).
    3. Seats: PTFE (Teflon).
    4. O-rings: EPDM

PART 3 EXECUTION

3.01 INSTALLATION

A. Follow manufacturer's published instructions.

END OF SECTION

SECTION 15115

GATE, GLOBE, AND ANGLE VALVES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Gate, globe, angle, plug disc and plain hose valves, and yard hydrants.

B. Related Sections:
   1. Section 15110 - Valves.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. B 98 - Specification for Copper-Silicon Alloy Rod, Bar and Shapes.

B. American Water Works Association (AWWA):
   1. C 500 - Standard for Metal-Seated Gate Valves for Water Supply Service (includes addendum C500a-95).
   2. C 509 - Standard for Resilient-Seated Gate Valves for Water-Supply Service (includes addendum C509a-95).

1.03 WARRANTY

A. As specified in Section 15050.

PART 2 PRODUCTS

2.01 GATE VALVES

A. Gate Valves Aboveground:
   1. Valves less than 3 Inches in Size for Clean Water and Air Service: Manufacturer's standard bronze, solid wedge disc, rising stem, screwed end, Class 150 pounds.
      a. Manufacturers: One of the following or equal:
         1) Crane, Figure 431.
         2) Jenkins, Figure 47.
         3) Lunkenheimer Company, Figure 2151.
   2. Valves 3 Inches in Size and Larger: Flanged 200 pound iron body; bronze mounted; outside screw and yoke (OS&Y); double disc; parallel seat; with stems of silicon bronze in accordance with ASTM B 98, Alloy No. C 66100; and handwheel.
      a. Manufacturers: One of the following or equal:
         1) M&H Valve Company, Figure 68-02.
         2) Mueller, A-2483-6.

B. Gate Valves Underground:
   1. Valves 3 Inches through 12 Inches in Size for Underground Service: Iron body, resilient seat, non-rising stem, double O-ring stem seal, in accordance with AWWA C 509.
      a. Manufacturers: One of the following or equal:
         1) M&H Valve Company.

2) Mueller Company.

2. Valves 14 Inch Size and Larger for Underground Service: Double disc, parallel seat, iron body, bronze mounted, non-rising stem (NRS) in accordance with AWWA C 500.
   a. Manufacturers: One of the following or equal:
      1) M&H Valve Company.
      2) Mueller Company.

C. Steam and Condensate Gate Valves:
1. Valves 3 Inches and Smaller in Size: Bronze, screwed, rising stem, solid wedge, screwed bonnet, suitable for service under pressures equal to and less than 125 pounds per square inch gauge, steam working pressure (SWP).
   a. Manufacturers: One of the following or equal:
      1) Crane, No. 428.
      2) Jenkins, Figure 47U.
      3) Lunkenheimer Company, Figure 2127.
2. Valves Larger than 3 Inches in Size: Suitable for service under pressures equal to and less than 125 pounds per square inch gauge, steam working pressure (SWP), flanged, iron body, bronze mounted, solid wedge, outside screw and yoke (OS&Y).
   a. Manufacturers: One of the following or equal:
      1) Crane No. 465-1/2.
      2) Jenkins, Figure 651C.
      3) Lunkenheimer Company, Figure 1430.

D. Stainless Steel Knife Gate Valves for FOG service
1. Size: 4 inch
2. Cast 316 stainless steel body and packing gland
3. 316 Stainless steel gate and stem.
4. 304 Stainless steel Yoke.
5. Bi-directional resilient seated valve.
6. Seat material: EPDM to 250°F.
7. Pressure rating 150 psi. C.W.P.
8. Lug connections.
9. Actuator: Stainless Steel Manual lever.
   a. Manufacturers: One of the following or equal
      1) Dezurik KGN-RSB
      2) Valtorc Series 4200
      3) Velan

2.02 GLOBE AND ANGLE VALVES

A. General Purpose Globe and Angle Valves:
1. Valves 3 inches and smaller:
   a. Manufacturers: One of the following or equal except in welded steel piping:
      1) Crane, No. 1 Globe or No. 2 Angle.
      2) Lunkenheimer Company Figure No. 2140 Globe or No. 2141 Angle.
   b. Design:
      1) Valve: Class 125 threaded ends, rated for 250 degrees Fahrenheit at pressure of 170 pounds per square inch.
   c. In Welded Steel Piping: One of the following or equal:
      1) Crane, No. 351.
      2) Lunkenheimer Company, Figure No. 1123; or equal with flanged ends.
2. Valves Larger than 3 Inches:
   a. Manufacturers: One of the following or equal:

1) Crane, No. 351.
2) Lunkenheimer Company, Figure No. 1123.

3. Plug Disc Globe Valves:
   a. Manufacturers: One of the following or equal:
      1) Crane, No. 212P or No. 384P.
      2) Lunkenheimer Company, 72-PS or 73-PS1.
   b. Plug disc globe or angle valves specified in the Specifications or indicated on the Drawings for throttling or for severe service: Iron body stainless steel trimmed plug type seat and disc.
4. Needle Valves:
   a. Manufacturers: One of the following or equal:
      1) Powell, Figure No. 180.
      2) Lunkenheimer Company, Figure No. 906-BS or No. 907-BS.
      3) Crane No. 88 or No. 89.
   b. Valves for Metering: As recommended by the meter manufacturer and furnished with the meters.
5. Globe or Angle Hose Valves:
   a. Manufacturers:
      1) Globe Threaded Valve: One of the following or equal:
         a) Crane, No. 7TF.
         b) Stockham, Figure No. B22T.
      2) Angle Threaded Valve: One of the following or equal:
         a) Crane, No. 17TF.
         b) Stockham, Figure No. B222T.
   b. Design:
      1) Valve: Globe or angle valve with threaded ends size 1/8 inch to 3 inches in diameter, size as indicated on the Drawings.
      2) Disc: Renewable, made of teflon or Buna-N.
      3) Class 150 threaded ends, rate for 200 degrees Fahrenheit at a pressure of 270 pounds per square inch.
6. Freezeless Yard Hydrant:
   a. Manufacturers: One of the following or equal:
      1) Josam, Series 71700.
      2) Zurn, Z-1385.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install valves in accordance with Section 15110.

B. Mount yard hydrants on iron pipe risers minimum 1 inch nominal diameter or size indicated on the Drawings.

END OF SECTION

SECTION 15120

PIPING SPECIALTIES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Piping specialties including:
   1. Flexible rubber connections.
   2. Expansion joints.
   3. Vibration control joints.
   4. Pipe saddles.
   5. Tapping sleeves.
   6. Surge cushions.
   7. Sight glasses.
   8. Pressure gauges.
   9. Thermometers.
   10. Mechanical Variable Area Vane Type Flow Meters

B. Related Sections:
   1. Section 11388 - Digester Gas Manometers.
   2. Section 15052 - Basic Piping Materials and Methods.

1.02 REFERENCES

A. American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME).

B. American National Standards Institute/American Water Works Association (ANSI/AWWA):
   1. ANSI/AWWA C153/A21.53 - Ductile-iron Compact Fittings.
   2. ANSI/AWWA C111/A21.11 - Rubber Gasket Joints for Ductile-iron and Gray-iron Pressure Pipe and Fittings.
   3. ANSI/AWWA C110/A21.10 - Ductile-iron and Gray-iron Fittings.
   4. ANSI/AWWA C213 - Fusion-bonded Epoxy Coatings and Linings for Steel Water Pipelines.
   5. ANSI/AWWA C151/A21.51 - Ductile-iron Pipe, Centrifugally Cast.

C. American Society for Testing and Materials (ASTM).
   1. ASTM A148 - Specification for steel castings, high- Strength, for Structural Purposes.
   2. ASTM A536 - Specification For Ductile Iron Castings.

D. Society of Automotive Engineers (SAE).

1.03 SUBMITTALS

A. Assemblies:
   1. Manufacturer's certificate attesting successful performance of specified steam test.
   2. Shop drawings detailing dimensions and materials.
   3. Manufacturer's published installation instructions.
   4. Operation and maintenance manuals.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Expansion Joints and Vibration Control Joints:
   1. Protect joint bellows and sliding surfaces against damage during packing, shipping and installation, and also during pressure test.
   2. Lock expansion joints against movement until pressure tests are completed.
   3. Replace damaged expansion joints with new and undamaged expansion joints.

B. Ball-Type Flexible Expansion Joints:
   1. Protect joint bellows and sliding surfaces against damage during packing, shipping, and installation.
   2. Lock expansion joints against movement until installation is completed.
   3. Do not repair but discard damaged expansion joints and in their place provide new and undamaged flexible expansion joints.

1.05 MAINTENANCE

A. Extra Materials: Furnish 4 complete spare sets of gaskets for each size and type of ball joint.

1.06 WARRANTY

A. As specified in Section 15050.

PART 2 PRODUCTS

2.01 FLEXIBLE RUBBER CONNECTIONS

A. Manufacturers: One of the following or equal:
   1. Mercer Rubber Company, Type 150 Vibraflex.

B. Provide flexible rubber connections with 3/8 inch thick EPDM rubber tube with full faced flanged ends suitable to withstand a pressure of 150 pounds per square inch gauge.

C. Provide complete flexible rubber connections, including galvanized retaining rings and control rods.

2.02 EXPANSION JOINTS

A. Expansion Joints for Steam:
   1. Manufacturers: One of the following or equal:
      a. Flex-Weld, Inc., Keflex, Series 308-1215.
      b. Flexonics, Inc., Controlled Flexing Expansion Joint.
   2. Design:
      a. Flexible bellows type.
      b. Pressure and Temperature Ratings: 150 pounds per square inch gauge, and 500 degrees Fahrenheit service.
      c. Bellows: Laminated Type 321 stainless steel, equipped with a Type 321 stainless steel liner.
      d. Axial Travel of Expansion Joints: 3 inches, minimum.
      e. Ends: 150 pound ANSI flanges.

B. Rubber Expansion Hot Water, Sludge, and Air Service:

1. Manufacturers: One of the following or equal:
    a. Mercer Rubber Company, Style 500.
2. Provide rubber expansion joints complete with control rods and split retaining rings.
3. Design:
    a. Material: EPDM, reinforced with embedded steel rings, and a strong synthetic fabric.
    b. Single Arch Expansion Joints for Air and Sludge Service,
        1) Pressure Rating: Suitable for continuous operation at a pressure of at least 250 Pounds per square inch gauge.
        2) Vacuum Rating: Suitable for a vacuum of 30 inches of mercury
        3) Temperature Rating: Minimum continuous operation at 250°F.
        4) Axial Extension: 1/2"
        5) Axial Compression: 3/4"
        6) Split retaining rings, stainless steel.
        7) Ends of expansion joints, stainless steel 150 pound ANSI flanges with drilling to match that of the piping.
    c. Dual Arch Expansion Joints for Hot Water service,
        1) Pressure Rating: Suitable for continuous operation at a pressure of at least 180 Pounds per square inch gauge.
        2) Vacuum Rating: Suitable for a vacuum of 30 inches of mercury
        3) Temperature Rating: Minimum continuous operation at 250°F.
        4) Axial Extension: 1"
        5) Axial Compression: 1-1/2""
        6) Split retaining rings, stainless steel.
        7) Ends of expansion joints, stainless steel 150 pound ANSI flanges with drilling to match that of the piping.

C. Rubber Expansion Digester Gas and Chemical Service:
1. Manufacturers: One of the following or equal:
    a. Mercer Rubber Company, Style 700.
2. Provide rubber expansion joints complete with control rods and split retaining rings.
3. Design:
    a. Material: EPDM with Teflon liner etched and permanently bonded to the expansion joint body and flange faces, reinforced with embedded steel rings, and a strong synthetic fabric.
    b. Coating: Hypalon paint to provide protection against ozone, weathering, and chemical exposure.
    c. Single Arch Expansion Joints for Digester Gas and Chemical service,
        1) Pressure Rating: Suitable for continuous operation at a pressure of at least 150 Pounds per square inch gauge.
        2) Vacuum Rating: Suitable for a vacuum of 30 inches of mercury
        3) Temperature Rating: Minimum continuous operation at 250°F.
        4) Split retaining rings, stainless steel.
        5) Ends of expansion joints, stainless steel 150 pound ANSI flanges with drilling to match that of the piping.

D. Copper Piping Expansion Joints:
1. Expansion Joints for Copper Pipe: As specified before, except externally guided, without equalizing rings, and provide for 3-1/4 inch expansion per 100 feet of piping.

2.03 VIBRATION CONTROL JOINTS

A. Manufacturers:
   1. Braided Bronze Flexible Vibration Joints 2 Inches and less in Size: One of the following or equal:
      a. Flexonics, Inc., Type Vibra Sorber.
      b. Flex-Weld, Inc, Keflex, Type KFCB.
   2. Flexible Vibration Joints Larger than 2 Inches: One of the following or equal:
      a. Flexonics, Inc., Type TCS.
      b. Flex-Weld, Inc., Keflex, Series 151-TR-1215.
   3. Corrugated Stainless Steel with Stainless Steel Braid Flexible Vibration Joints: One of the following or equal:
      a. Flexonics, Inc., Type FCS.
      b. Flex-Weld, Inc., Keflex, Type USFNSS-31.

B. Design:
   1. Flexible Vibration Joints 2 Inches and Smaller: Braided bronze, suitable for pressures of not less than 250 pounds per square inch gauge.
   2. Flexible Vibration Joints Larger than 2 Inches: Flexible bellows type, suitable for pressures of not less than 150 pounds per square inch gauge, at 70 degrees Fahrenheit, except as follows:
      a. Provide vibration joints in piping subject to test pressures higher than 150 pounds per square inch gauge, suitable for such higher pressures.
      b. Bellows: Stainless steel, equipped with a stainless steel liner.
      c. Ends: ANSI Class 150 flanges.
   3. Vibration Joints in High Pressure Air Piping and in Digester Gas Piping: Corrugated Type 316 stainless steel with stainless steel braid, suitable for pressures of not less than 150 pounds per square inch gauge.
      a. Ends: ANSI Class 150 flanges.

C. Protection: Protect vibration absorbers against end loading and torsional stresses by anchoring attached piping.

2.04 PIPE SADDLES

A. Manufacturers: One of the following or equal:
   1. BTR Inc./Smith-Blair, Inc., Style 317.
   2. Romac Industries, Inc., Style 202S.

B. Materials:
   1. Pipe Saddles: Ductile iron.
   2. Straps, Bolts, and Nuts: Type 304 stainless steel with Teflon coating on nuts.
   3. Gaskets: EPDM.

2.05 TAPPING SLEEVES

A. Manufacturers: One of the following or equal:
   1. BTR Inc./Smith-Blair, Inc., Style 622.
   2. Romac Industries, Inc., Style FTS 420.

B. Materials:
   1. Tapping Sleeves: Steel construction.
   2. Bolts and Nuts: Type 304 stainless steel.
   3. Nuts: Teflon coated.

4. Gaskets: EPDM.
5. Size of Tapped Boss: As indicated on the Drawings.

2.06 SIGHT GLASSES

A. Assembly: Body casting with ANSI standard adapter flanges, Pyrex glass section, cleaning assembly with scalloped neoprene wipers, operating rod and handle, packing gland with packing and suitable adapter, and cock with solvent hand pump.

B. Suitable for a minimum pressure of 30 pounds per square inch gauge.

C. Manufacturers: One of the following or equal:
   1. EIMCO Process Machinery Division of Envirotech Corporation.
   2. Ernst, Type K2 or K3 Cleanable Sight Glass.

2.07 PRESSURE GAUGES

A. Design:
   1. Provide dual-range, liquid filled gauges with ranges as indicated on the Drawings.
   2. Size: As follows, unless otherwise indicated on the Drawings or specified:
      a. For 1 Inch Pipe and Larger: 4-1/2 inch diameter.
      b. For Smaller than 1 Inch Pipe: 2-1/2 inch diameter.
   3. Provide gauges with back flanged aluminum cases with threaded ring, except for panel mounting, in which case provide gauge with front flanged aluminum case with threaded ring. Apply black epoxy coating to cases.
   4. Provide case fitted with a rupture disc which shall relieve out the back of the case.
   5. Window: Shatterproof glass or high temperature acrylic.
   6. Provide gauges with Type 316 stainless steel socket and bellows or bourdon tube, depending on pressure range.
      a. Where the maximum pressure is less than or equal to 15 pounds per square inch the gauge shall use bellows as the measuring element.
      b. Where the maximum pressure is greater than 15 pounds per square inch, the measuring element shall be a bourdon tube.
   7. Socket Tips:
      a. Socket Tips for Bellows and Bourdon Tube: Type 316 Stainless steel.
      b. Size: 1/2 inch for 4-1/2 inch diameter gauges, 1/4 inch for 2-1/2 inch diameter gauges.
   8. Mount gauges on diaphragm seals where indicated on the Drawings.
      a. Provide diaphragm seals with Type 316 stainless steel top housing, bottom housing, and bolt assemblies.
         1) Bottom housing shall be fitted with a 1/4 inch flushing connection.
         2) This flushing connection shall be fitted with a Type 316 stainless steel close nipple and a brass shutoff cock.
         3) Diaphragm Seal: Removable.
            a) For pressure less than or equal to 15 pounds per square inch, provide viton diaphragm seal.
            b) For pressures greater than 15 pounds per square inch, provide Type 316 stainless steel diaphragm seal.
      b. Fit diaphragm seal gauge assembly with a snubber.
         1) Snubber shall have porous metal disc sized to dampen pressure fluctuations in the filled system.
         2) Snubber: Stainless steel.
         3) Snubber filter disc shall be sized to prevent the gauge from pulsating.
      c. Provide diaphragm seal gauge assemblies filled with silicon.

9. Pressure gauges, except gauges with diaphragm seals, shall have pulsation dampeners installed between the gauge and the shut-off valve.
    a. Pulsation Dampeners: Stainless steel.
10. Mount gauges on pressure ring where indicated on the Drawings.
    a. Suitable for sludge, fats, oils, grease, and food waste materials.
    b. Design:
        1) Full port design rated for 300 psig.
        2) Sense pressure on 360 degrees around the inner ring.
        3) Prevent plugging or fouling of sensor.
        4) All areas exposed to process fluid covered with elastomer.
        5) Bolt Through or Flange connection to Pipe Flange.
        6) Drill to 125#/150# ANSI standard.
    c. Materials:
        1) Sensor Body: stainless steel.
        2) Body Trim: Stainless Steel.
        3) Flexible Liner / Diaphragm: EPDM

B. Manufacturers:
1. Pressure Gauges: One of the following or equal:
    a. U.S. Gauge Division of Ametek, Inc., Solfrunt Gauges, Figure Number 1931T.
    b. Dresser Industries, Inc., Ashcroft Figure Number 1379.
2. Pressure Gauges for Digester Gas Systems: One of the following or equal:
    a. Dresser Industries, Inc.
    b. Ashcroft, Figure 1179 compound gauge.
3. Diaphragm Seal: One of the following or equal:
    a. For pressure less than or equal to 15 pounds per square inch:
        1) Ashcroft, Type 301.
        2) Mansfield and Green, Type LG.
    b. For pressures greater than 15 pounds per square inch:
        1) Ashcroft, Type 101.
        2) Mansfield and Green, Type RG.
4. Snubber: One of the following or equal:
    a. Chemiquip, Ashcroft.
5. Pulsation Dampeners: One of the following or equal:
    a. Dresser Industries, Inc., Ashcroft Figure Number 1106S.
    b. Operation and Maintenance Specialties, Charlotte, N.C., Ray Pressure Snubbers.
6. Pressure Rings: one of the following or equal.
    a. Ashcroft Type 81.
    b. Red Valve series 48.

2.08 THERMOMETERS

A. Tube Type Thermometers:
1. 9 inch size with adjustable angle from temperature well.
2. Type 316 stainless steel separable sockets with extension necks on insulated pipes and where indicated on the Drawings.
3. Range indicated on the Drawings.
4. Manufacturers: One of the following or equal:
    a. H.O. Trerice Company, Series BX9.
    b. Jay Instruments Company.

B. Bimetallic Type Thermometers:
1. Scales graduated in degrees Fahrenheit.

2. 5 inch diameter dials.
3. Heads capable of being rotated 360 degrees and titled 180 degrees.
4. Type 304 stainless steel construction.
5. Shatterproof glass.
6. Stem length as necessary for the installation conditions; 4 inch minimum.
7. Accuracy: plus or minus 1.0 percent of full scale with external adjustment.
8. Manufacturers: One of the following or equal:
   a. Ametek, U.S. Gauge Division, Figure 6530.
   b. Dresser Industries, Ashcroft Instrument Division, EI Everyangle.

2.09 MECHANICAL VARIABLE AREA VANE TYPE FLOW METERS

A. Mechanical variable area vane type flow meter with mechanical display.
   1. Universal Flow Monitors MN or LN Series based on flow range.
   2. MN series for flows less than 100 gpm.
   3. LN series for flows greater than 100 gpm.
   4. Suitable for water service.
   5. Maximum pressure drop at maximum flow MN series 5 psig, LN series 3.8 psig.
   6. Brass housing with nylon flow chamber, Stainless Steel internal parts, EPR seals pressure range 0 to 150 psig and up to 210°F service water temperature.
   7. In-line type suitable for mounting vertical or horizontal.
   8. Individually calibrated for the service fluid.
   9. Display flow in gallons per minute.
   10. Flow range as indicated on the Drawings or specified elsewhere.

PART 3 EXECUTION

3.01 INSTALLATION

A. Expansion and Vibration Control Joints:
   1. Prevent equipment vibration transmitted through piping system, and prevent damaging stresses due to normal expansion and contraction with temperature changes in piping and connected equipment.
      a. Where anticipated expansion is greater than can be absorbed by the normal piping configuration, install loops, bends, and expansion joints as indicated on the Drawings, to absorb excess expansion.
   2. Install expansion joints so as to allow 2-1/4 inch expansion per 100 linear feet of piping.
   3. Where possible, install expansion joints adjacent to an anchor, and provide one concentric guide on piping within 12 pipe diameters, but not more than 5 feet, from the end of the joint opposite the anchor.
      a. Locate a similar guide approximately 30 diameters but not more than 10 feet from the first.
   4. For expansion joints not installed adjacent to an anchor provide 2 concentric guides similarly located at each end of the joint.
   5. Provide control rods and additional guides where indicated on the Drawings, but at no greater intervals than recommended by the joint manufacturer in published instructions.
   6. Space intermediate supports a minimum of 10 feet, and tack weld the protective saddles to the pipe.

B. Expansion Joints for Steam Cleaned Piping:
   1. Install no less than one expansion joint in a run of steam cleaned piping which exceeds 20 feet in length. Do not exceed 200 feet in spacing of expansion joints.

2. Install expansion joints in steam cleaned piping between anchors.

C. Expansion Joints for Steam and Hot Water:
   1. Install not less than 1 expansion joint in a run of steam or hot water piping which exceeds 20 feet in length. Do not exceed 150 feet spacing of expansion for steam piping and 200 feet for hot water piping.
   2. Where possible, install expansion joints adjacent to an anchor; provide piping with 2 concentric guides, the first being within 2 feet of the end of the joint opposite the anchor.
   3. At expansion joints not installed adjacent to an anchor, provide 2 concentric guides on piping within 2 feet off both ends of the expansion joint.
   4. Lock expansion joint against movement until pressure test is completed.

D. Vibration Control Joints:
   1. For piping running to or from mechanical equipment, provide flexible vibration joint at equipment connection.

E. Pipe Saddles:
   1. Coat threads on bolts with anti-gall coating prior to installation.

F. Tapping Sleeves:
   1. Coat threads on bolts with anti-gall coating prior to installation.

G. Pressure Gauges:
   1. Install pressure and compound gauges as indicated on the Drawings, in the Pressure Gauge Schedule, and as specified.
   2. Install gauges as specified, and as recommended by the manufacturer in published instructions.

H. Thermometers:
   1. Drill and tap piping for the thermometers as generally indicated on the Drawings. Select final position in the field with the objective of achieving best readability.

I. Mechanical Flow Meters
   1. Install per manufacturer's instructions. Orient so flow is easily visible by operators.

3.02 FIELD QUALITY CONTROL

A. Testing: Field test gauges with a calibrated test gauge, in the presence of ENGINEER.

END OF SECTION

SECTION 15121

FLEXIBLE COUPLINGS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Flexible couplings.

B. Related Sections:
   1. Section 15052 - Basic Piping Materials and Methods.

1.02 REFERENCES

A. American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME).

B. American Society for Testing and Materials (ASTM).

C. Society of Automotive Engineers (SAE).

1.03 SUBMITTALS

A. Shop drawings detailing dimensions and materials.

B. Manufacturer's published installation instructions.

1.04 WARRANTY

A. As specified in Section 15050.

PART 2 PRODUCTS

2.01 FLEXIBLE COUPLINGS

A. Line and coat flexible couplings, except for stainless steel flexible couplings, with fusion-bonded epoxy of minimum 0.012 inches thickness.

B. Flexible Couplings Used for Connecting Piping Having Different Outside Diameters: Use products specifically designed and manufactured for that application.

C. Gaskets for Flexible Couplings:
   1. Air Piping: EPDM.
   2. Piping Other than Air Piping: EPDM.

D. Manufacturers:
   1. Flexible Couplings in Steel and Ductile Iron Piping: One of the following or equal, except where other types are required for particular applications:
      a. Dresser Industries, Inc. Style 38.
      b. Smith-Blair, Inc., Series 441.
      c. Romac Industries, Inc., Style 400.
   2. Flanged Coupling Adapters in Steel Piping: One of the following or equal:

a. Dresser Industries, Inc., Style 128.
b. Smith-Blair, Inc., Series 913.
c. Romac Industries, Inc., Style FCA501.

PART 3 EXECUTION

3.01 INSTALLATION

A. In underground and underwater installations, coat the coupling exterior after installation with a protective coating.
   1. Manufacturers: One of the following or equal:
      a. Tapecoat Company, Inc., T.C. Mastic.
      b. Kop-Coat Company, Inc., Bitumastic Number 50.
   2. Thickness: Minimum 0.040 inch.

B. Where flexible couplings are installed underground or underwater, provide Type 316 stainless steel bolts.

C. Provide joint harnesses for flexible couplings unless otherwise indicated on the Drawings with a written note.
   1. Design joint harnesses on steel and stainless steel piping for the test pressures specified with the Piping Schedule in Section 15052.

END OF SECTION

SECTION 15251

DUCTILE IRON PIPING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Ductile iron piping, joints, fittings, gaskets, and pipe lining and coating.

B. Related Sections:
1. Section 02318 - Trenching.
2. Section 09960 - High Performance Coatings
3. Section 15052 - Basic Piping Materials and Methods.

1.02 REFERENCES

A. American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME):
1. B 16.1 - Cast Iron Pipe Flanges and Flanged Fittings.

B. American Society for Testing and Materials (ASTM):
1. A 47 - Specifications for Ferritic Malleable Iron Castings.
2. A 183 - Specifications for Carbon Steel Tank Bolts and Nuts.
3. A 283 - Specifications for Low and Intermediate Tensile Strength Carbon Steel Plates.
4. A 536 - Ductile Iron Castings.
5. A 674 - Practice for Polyethylene Encasement for Ductile Iron Pipe for Water or Other Liquids.
6. D 792 - Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.
7. D 1248 - Specifications for Polyethylene Plastics Molding and Extrusion Materials.

C. American Water Works Association (AWWA):
1. C 104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
2. C 105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. C 110 - Ductile-Iron and Gray-Iron Fittings, 3 Inches Through 48 Inches, for Water and Other Liquids.
4. C 111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
5. C 115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
6. C 150 - Thickness Design of Ductile-Iron Pipe.
7. C 151 - Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids.
8. C 153 - Ductile-Iron Compact Fittings, 3 Inches Through 24 Inches, and 54 Inches Through 64 Inches, for Water Service.
9. C 600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
10. C 606 - Grooved and Shouldered Joints.

1.03 SUBMITTALS

A. Shop Drawings:
1. Detailed layout drawings showing alignment of pipes, location of valves, fittings, and appurtenances, types of joints, connections to structures and thrust restraint

system layouts.
2. Thrust Restraint Systems: Layouts and supporting calculations for restrained joint thrust restraint systems.

B. Pipe Design Calculations: Calculations for required wall thickness in accordance with AWWA C 150.

C. Product Data: Photographs, drawings, and descriptions of fittings, gaskets, couplings, grooving of pipe and fittings, pipe linings, and coatings.

D. Test Reports:
1. Manufacturer's test reports for lining certifying successful performance of the wet sponge spark tests.
2. Manufacturer’s test results for glass lined pipe certifying compliance with specified material requirements for glass lining.

E. Certificates: Submit certified documentation of holiday detection testing results with all glass lined pipe shipments. This documentation shall identify each piece by mark designation and show the actual test results during the final inspection by the manufacturer prior to shipment. Acceptance criteria shall be as specified under Field Quality Control.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Block piping material for shipment, prevent damage to castings and linings.

B. Carefully handle piping material during loading, unloading, and installation. Do not drop piping material from cars or trucks. Lower piping material by mechanical means. Do not drop or pound pipe to fit grade.

C. Repair damaged cement mortar lining to match quality, thickness, and bonding of original lining in accordance with AWWA C 104. When lining cannot be repaired or repairs are defective, replace defective piping with undamaged piping.

D. Protect gaskets and polyethylene encasement from long term exposure to sunlight.

E. Store fittings and other accessories such that they do not accumulate and hold rainwater, dirt, and debris.

1.05 QUALITY ASSURANCE

A. Qualifications of Lining Manufacturers: For piping specified to receive glass lining or polyethylene lining use only a manufacturer having a minimum of 5 years experience supplying this type of product to the wastewater and water treatment industry.

B. Regulatory Requirements: Install work of this Section in accordance with local, state, and federal regulations.

1.06 THRUST RESTRAINT SYSTEM DESIGN

A. Assume responsibility for the restrained joint thrust restraint system design.

B. Determine the length of pipe that must be restrained on each side of the focus of a thrust load in accordance with the procedures and criteria established by the Ductile

Iron Pipe Research Association (DIPRA) and the following additional criteria:

1. Design Pressure: Test pressure or 100 pounds per square inch, whichever is greater.
2. Laying Condition: Type 3 as defined by AWWA C150.
3. Soil Type: as defined by geotechnical report.
4. Unit Friction Resistance: Based upon polyethylene encasement of pipe.
5. Safety Factor: 1.5 (for thrust restraint calculations only).

PART 2 PRODUCTS

2.01 MATERIALS

A. Ductile Iron Piping:
   1. Type, Typical: AWWA C 150 and AWWA C 151 with minimum pressure class wall thickness that meets project pressure and structural requirements, unless otherwise specified or indicated on the Drawings.
   2. Type with Screw-on Flanges: AWWA C 115 with minimum special thickness Class 53 wall thickness that meets project pressure and structural requirements, unless otherwise specified or indicated on the Drawings.
   3. Laying Condition: Type 3 as defined by AWWA C 150.

B. Joints:
   1. Flanged Joints:
      a. Flanges, Screw-on: Comply with the diameter, thickness, drilling, and other characteristics in accordance with ANSI B 16.1. In addition, comply with the following requirements:
         1) Ductile iron.
         2) Long hub, threaded, and specially designed for ductile iron pipe.
         3) After attaching to pipe, machine flange face to make pipe end and flange even and perpendicular to the axis of the pipe.
      b. Bolt Holes on Flanges: 2-holed and aligned at both ends of pipe.
      c. Cap Screw or Stud Bolt Holes: Tapped.
      d. Bolts and Nuts: As specified in ANSI/ASME B 16.1 except when connecting flanges underground, in concrete pipe valve boxes, or underwater, use Type 304 or Type 316 stainless steel. Cut and finish bolts to project a maximum of 1/4 inch beyond nut when joints are assembled.
      e. Gaskets: As specified in Section 15052.
   2. Mechanical Joints: In accordance with AWWA C 111/ANSI A 21.11.
   3. Restrained Mechanical Joints:
      a. Design: Integral retainer weldment type or lugged type joint with Type 304 stainless steel rods and nuts.
      b. Manufacturers: One of the following or equal:
         1) Pacific States Cast Iron Pipe Company, Lock Mechanical Joint.
         2) American Cast Iron Pipe Company, MJ Coupled Joint.
   4. Push-on Rubber Gasket Joints: AWWA C 111/ANSI A 21.11.
   5. Restrained Push-on Joints:
      a. Manufacturers: One of the following or equal:
         1) United States Pipe and Foundry Company, TR Flex.
         2) Pacific States Cast Iron Pipe Company, Perma Lock.
         3) American Cast Iron Pipe Company, Flex Ring or Lok-Ring.
      b. Design: Suitable for the following working pressures:
         1) For 4 Through 24 inch Pipe: 350 pounds per square inch gauge.
         2) For 30 Through 54 inch Pipe: 250 pounds per square inch gauge.
   6. Grooved Joints: AWWA C 606, as complemented and modified below, radius-cut

type, with following components:

a. Couplings: Rigid type, cast from ductile iron in accordance with ASTM A 536, Grade 65-45-12 or malleable iron in accordance with ASTM A 47, Grade 32510.
b. Bolts and nuts in accordance with ASTM A 183, Grade 2.
c. Gaskets: Capable of being applied on surface of piping with cavities to provide for an improved seal with the internal piping pressure; material for following services:
    1) For Liquid Service: [Halogenated butyl] [EPDM] [Viton].
    2) For Air Service: Fluoroelastomer.
    3) For Hot Water Service: EPDM
d. Fittings: AWWA C 606, rigid radius-cut groove.
    1) Center-to-center Dimensions: AWWA C 110/ANSI A 21.10.
    2) Wall Thickness and Other Characteristics: AWWA C 153.
e. Flanged Unit Connections: Flanged to grooved joint adapters or a long enough spool with 1 end flanged and the other grooved to prevent interference with the operation of adjacent valves, pumps, or other items.

2.02 FITTINGS

A. Fittings: Ductile iron conforming with AWWA C 110/ANSI A 21.10 or AWWA C 153/ANSI A 21.53.

B. Joint Type: Same as that of the associated piping as specified in Section 15052.

C. Plain end-to-flanged joint connectors using set screws are not acceptable.

2.03 PIPE LININGS AND COATINGS

A. Asphaltic Base Coating: Apply over cement mortar linings and to outside surface of pipes which will not receive another coating. Apply in accordance with AWWA C151/ANSI A21.51.

B. Cement-mortar Lining: AWWA C 104/ANSI A 21.4, apply on clean bare metal surfaces; extended to faces of flanges, ends of spigots, and shoulders of hubs.

C. Polyethylene Lining:
1. Manufacturers: One of the following or equal:
    a. U. S. Pipe, polylined.
    b. American Ductile Iron Pipe, polybond.
2. Material: ASTM D 1248, blend of high-density and low-density polyethylene powders; compounded with an inert filler and carbon black; minimum 30 mils thick; resistant to ultraviolet light.
3. Application:
    a. Remove minimum 75 percent of high temperature oxide film.
    b. Sandblast fittings to commercial grade.
    c. Uniformly preheat pipe and fittings to a temperature adequate to provide a uniform fusing of the polyethylene powders and proper bonding to pipe and fittings.
4. Coverage:
    a. Push-on Joints: Extend lining from spigot end to edge of gasket sealing area.
    b. Mechanical Joints: Extend lining from spigot end to edge of gauging ring.
5. Source Quality Control: Test pipe and fitting lining with a 400 volt wet sponge spark tester. Discard piping or reline piping when pinholes or discontinuities are

found.

D. Glass Lining:
   1. Manufacturers: One of the following or equal:
      a. Water Works Manufacturing, Ferrock MEH-32 Lining; Vitco Corporation, SG-14 Lining.
   2. Material: Special glasses and inorganic materials suited for lining of sewage, sludge, and scum piping with the following characteristics:
      a. Thickness: 0.008 to 0.012 inch.
      b. Hardness: 5 to 6 on the Mohs Scale.
      c. Density: 2.5 to 3.0 grams per cubic centimeter, measured in accordance with ASTM D 792.
      d. Thermal Shock Resistance: Capable of withstanding 350 degrees Fahrenheit change from 430 degrees Fahrenheit to 80 degrees Fahrenheit without crazing, blistering, or spalling.
      e. Gloss Retention: Capable of retaining gloss after immersion of an 8 percent sulfuric acid solution at 148 degrees Fahrenheit for 10 minutes.
      f. Weight Loss: Maximum 3 milligrams per square inch when tested in accordance with ASTM C 283.
   3. Fabrication:
      a. Use piping that is suitable for glass lining with minimum Class 53 wall thickness after application of glass lining.
      b. Machine interior of pipe (bore or grit blast to near white metal) prior to application of glass lining.
      c. Screw factory assembled flanges on pipe and align bolt holes and flange faces, unless otherwise specified.
      d. Apply lining to surfaces free of chemicals.
      e. Place piping in especially designed furnaces and heat piping until glass melts and fuses with a integral molecular bond to the base metal.

2.04 POLYETHYLENE ENCASEMENT

A. Polyethylene Encasement Sheets or Tubes:
   1. 8 mil thickness low density polyethylene, or
   2. 4 mil thickness high density, cross laminated polyethylene.

2.05 COAL TAR ENAMEL LINING

A. Pipe specified or shown to be coal tar enamel lined shall be lined in accordance with the requirements of AWWA C 203.

2.06 EPOXY LINING

A. The interior of all pipe specified or indicated on the Drawings as coal tar epoxy lined, shall be lined with epoxy coating as specified for submerged metal in Section 09960.

PART 3 EXECUTION

3.01 INSTALLATION

A. General:
   1. Install ductile iron piping in accordance with AWWA C 600, modified as specified in Section 15052.
   2. Lay mechanical joint or bell and spigot pipe with 1/8 inch space between the spigot

and shoulder of the pockets.

B. Polyethylene Encasement:
   1. Wrap ductile iron pipe to be buried with polyethylene encasement in accordance with ASTM A 674 and AWWA C 105.
   2. Repair tears and make joints with two layers of plastic tape.

3.02 JOINTS

A. Install types of joints as specified in piping schedule in Section 15052.

3.03 GROOVED JOINTS

A. Install piping with grooved joints where specified or indicated on the Drawings.

B. Assemble grooved joints in accordance with manufacturer's published instructions.

C. Support grooved-end pipe in accordance with manufacturer's published instructions. Install at least 1 support between consecutive couplings.

D. Grooved joints may be installed where flanged joints are scheduled, except under the following conditions:
   1. In underground and underwater installations.
   2. In piping subject to test pressure of 150 pounds per square inch gauge or more.
   3. In steam and in combustible gas piping systems.
   4. In sludge and scum piping designed to be steam cleaned as indicated on the Drawings.
   5. When wall thickness of pipe is less than the minimum recommended in published instructions by the manufacturer of the grooved end coupling.

E. Make connections to flanged valves, pumps and piping appurtenances by either:
   1. Flanged-to-grooved joint adapters.
   2. Flanged-by-grooved end pipe spool of sufficient length to prevent interference with the operation of adjacent valves, pumps or other items.
   3. Integrally cast flanged-by-grooved end pipe fittings.

3.04 FIELD QUALITY CONTROL

A. Test ductile iron piping as specified in Section 15052.
   1. Do not test sections longer than 1/2 mile in total pipe length.

B. Verify that interior surfaces of glass lined pipe and fittings have continuous coverage. Verify with low voltage wet sponge holiday detector. Discard glass lined ductile iron piping and fittings with voids or casting anomalies that represent more than 0.01 percent of the total glassed surface (no more than 1-2 pinholes per fitting or an average of 5 or less per 20 feet of pipe). Discard lined piping and fittings found to have pinholes, crazing, or fishscales which expose the metal substrate.

END OF SECTION

SECTION 15252

STEEL PIPING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Steel piping, joints, fittings, pipe lining and coating, and fabricated steel piping fittings and specials.

B. Related Sections:
1. Section 09960 - High Performance Coatings.
2. Section 15052 - Basic Piping Materials and Methods.

1.02 REFERENCES

A. American Association of State Highway and Transportation Officials (AASHTO):
1. Standard H-20.

B. American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME):
1. B16.1 - Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250 and 800.
2. B16.3 - Malleable-Iron Threaded Fittings, Classes 150 and 300.
3. B16.5 - Pipe Flanges and Flanged Fittings.
4. B16.9 - Factory-Made Wrought Steel Buttwelding Fittings.
5. B16.12 - Cast Iron Threaded Drainage Fittings.

C. American Society for Testing and Materials (ASTM):
1. A 47 - Ferritic Malleable Iron Casting.
2. A 53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
3. A 105 - Forgings, Carbon Steel, for Piping Components.
4. A 106 - Seamless Carbon Steel Pipe for High-Temperature Service.
5. A 153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
6. A 183 - Carbon Steel Track Bolts and Nuts.
7. A 536 - Ductile Iron Castings.
8. D 297 - Steel Casting, Iron-Chromium and Iron-Chromium-Nickel, Heat-Resistant, for General Application.
9. C 150 - Portland Cement.
10. D 395 - Rubber Property-Compression Set.
11. D 977 - Emulsified Asphalt.
12. D 471 - Rubber Property-Effect of Liquids.
13. D 573 - Rubber Property-Deterioration in an Air Oven.
14. D 412 - Rubber Properties in Tension.
15. D 429 - Rubber Property-Adhesion to Rigid Substrates.
16. D 2000 - Classification System for Rubber Products in Automotive Applications.
17. D 2240 - Rubber Property-Durometer Hardness.

D. American Water Works Association (AWWA):
1. C 200 - Steel Water Pipe 6 Inches and Larger.
2. C 203 - Coal-Tar Protective Coatings and Linings for Steel Water Pipelines-Enamel and Tape-Hot Applied.
3. C 205 - Cement-Mortar Protective Lining and Coating for Steel Water Pipe-4

Inches and Larger-Shop Applied.
4. C 206 - Field Welding of Steel Water Pipe.
5. C 207 - Steel Pipe Flanges for Waterworks Service-Sizes 4 inches Through 144 inches.
6. C 208 - Dimensions for Fabricated Steel Water Pipe Fittings.
7. C 606 - Grooved and Shouldered Joints.
8. M 11 - Design Manual.

E. National Association of Corrosion Engineers (NACE):
1. RP0274-74 - Standard Recommended Practice.

1.03 SYSTEM DESCRIPTION

A. Design Requirements:
1. Design Criteria for Pipe and Pipe Fittings: In accordance with AWWA Manual M11 with the following modifications:
a. Wall Thickness: As designed or minimum 1/4 inch for pipe from 12 inches in diameter to, and including, 72 inches in diameter or minimum 5/16 inch for pipe larger than 72 inches in diameter, whichever is thicker.
b. Inside Diameter of Unlined Pipe: Nominal.
c. Inside Diameter of Lined Pipe: As measured from face to face of liner, but not less than nominal.
d. Deflection of Underground Pipe Inside Diameter: Maximum 2 percent under trench load of H-20 live load in accordance with AASHTO specifications.
e. Working Stress of Steel: Maximum 50 percent of yield stress.

1.04 SUBMITTALS

A. Shop Drawings: Details of fittings and specials showing thickness and dimensions of plates, detail of welds, and materials; listing of proposed services and locations for use of grooved joint type piping; tabulated layout schedules for cement-mortar lined and coated steel pipe.

B. Product Data: Details of fittings and specials showing thickness and dimensions of plates, detail of welds, and materials; grooved joint piping fittings, gaskets, couplings, grooving of pipe and fittings, and pipe lining and coating.

C. Certificates of Compliance: Cement-mortar lined and coated steel pipe.

D. Design Calculations: Wall thicknesses for external loading, special loading and internal pressure.

E. Mill certificates.

F. Test Reports: Rubber gaskets.

1.05 QUALITY ASSURANCE

A. Applicable Standards:
1. Cement-mortar lined and coated steel pipe shall conform to the following standards, as complemented and modified herein:
a. Steel Pipe: AWWA C 200.
b. Cement-Mortar Lining and Coating: AWWA C 205.

c. Fittings and Specials: AWWA C 208.
d. Reinforcement of Fittings and Specials: AWWA M 11.

PART 2 PRODUCTS

2.01 MATERIALS

A. Steel Pipe:
1. Type, Pipe 6 inches and Smaller: ASTM A 53, black or galvanized, seamless or straight seam electric resistance welded. Minimum Schedule 40.
2. Type, from 6 to 12 inches: ASTM A 53, black or galvanized pipe, seamless or straight seam electric resistance welded. Minimum Schedule 20.
3. Type, Larger than 12 inches: AWWA C 200, without butt strap, riveted, or swaged joints; wall thickness as specified in Design Requirements.
4. Type, 24 inches and Larger, with Grooved Type Couplings and Wall Thickness less than 1/2 inch: Provided with stub ends, sized as follows, for grooves.
   a. Thickness: As recommended by coupling manufacturer, but not less than 1/2 inch.
   b. Length: Width of coupling plus 1 inch, but not less than 6 inches.
5. Type for Liquid or Gaseous Dry Chlorine: ASTM A 106, Grade A, Schedule 80, assembled with 300 pounds per square inch malleable iron fittings and ammonia type flanges.

B. Steel Pipe Fittings:
1. Screwed Fittings:
   a. Malleable Iron: ANSI/ASTM B16.3, 150 pounds; galvanized in accordance with ASTM A 153 where used with galvanized pipe.
   b. Cast Iron Drainage: ANSI/ASTM B16.12; galvanized in accordance with ASTM A 153 where used with galvanized pipe.
2. Flanged Fittings:
   a. Type for 12 inch and Smaller Pipe: ANSI/ASTM B16.1, cast iron or ductile iron, 125 pounds; or ANSI/ASTM B16.5, steel, 150 pounds, galvanized in accordance with ASTM A 153 where used with galvanized pipe.
   b. Type for Larger than 12 inch Pipe: ANSI/ASTM B16.5, steel, 150 pounds; galvanized in accordance with ASTM A 153 where used with galvanized pipe; or AWWA C 207 and AWWA C 208, fabricated from flanges and steel pipe, respectively.
   c. Companion Flanges for 4 inches and Smaller Pipe: ANSI/ASTM B16.1, cast iron or ductile iron, 125 pounds; ANSI/ASTM B16.5, steel, 150 pounds, slip-on or welding neck; or ammonia type for use on chlorine liquid or gas piping.
   d. Companion Flanges for Larger than 4 inch to and Including 12 inch Pipe: ANSI/ASTM B16.5, slip-on or welding neck type.
   e. Companion Flanges for Larger than 12 inch Pipe: ANSI/ASTM B16.5, steel, 150 pounds; galvanized in accordance with ASTM A 153 where used with galvanized pipe; or AWWA C 207, steel plate or raised hub type.
   f. Weld flanges to pipe or fittings before applying lining.
   g. Machine flanges or provide tapered filler for changes in grade or to slope lines for drainage.
   h. Flange Bolts: ANSI/ASTM B16.1 for typical applications; or Type 304 or 316 stainless steel, or Everdur for underground or underwater applications.
      1) Cut and finish flange bolts to project a maximum of 1/4 inch beyond outside face or nut after assembly.

2) Tap holes for cap screws or stub bolts when used.

i. Gaskets: In accordance with Section 15052.

3. Welding Fittings:
   a. Welding Fittings for Piping 8 inches and less in Nominal Diameter: Butt-welding fittings in accordance with ANSI/ASTM B16.9, standard wall or standard weight.
   b. Welding Fittings for Piping Larger than 8 inches in Nominal Diameter: Butt-welding fittings in accordance with ANSI/ASTM B16.9, or, at the option of the CONTRACTOR, made up out of sections of pipe welded together, except where smooth bends are indicated for air lines.
   c. Fittings made up of sections of pipe welded together shall be made of pipe of at least the same wall thickness as the pipe with which used, and bends shall be miter bends, fabricated in accordance with AWWA C 208 and as supplemented by AWWA Manual M 11. Welding of these made-up fittings shall be in accordance with AWWA C 206.
      1) Design and fabricate outlets and 4 branch fittings in accordance with AWWA Manual M 11.
      2) Bends may be welded to adjacent pipe sections.
         a) Bends shall be manufactured of the following number of pieces:
         b) Bends from 0 to 30 degrees angle, 2 pieces.
         c) Bends from 30 to 45 degrees angle, 3 pieces.
         d) Bends from 45 to 67-1/2 degrees angle, 4 pieces.
         e) Bends from 67-1/2 to 90 degrees angle, 5 pieces.
4. Grooved Joint Fittings:
   a. Fittings for Grooved Joint Steel Piping: Rigid-grooved type, and as follows:
      1) Grooves: Cut; rolled grooves are not acceptable.
      2) Couplings: Cast in 2 or more segments of ductile iron conforming to ASTM A 536, Grade 65-45-12 or malleable iron conforming to ASTM A 47, Grade 32510.
      3) Bolts and Nuts: ASTM A 183, Grade 2.
      4) Gaskets: Composition water-sealing designed so that the internal piping pressure serves to increase the seal's watertightness.
      5) Gaskets for water service and oil-free air systems at temperatures less than 230 degrees Fahrenheit shall be made of ethylene propylene diene monomers (EPDM) in accordance with ASTM D 2000 Line Call Out 2CA615A25B24.
      6) Gaskets for use with cement-mortar lined steel piping shall be captured between the ends of the pipe to protect exposed metal from corrosion, and shall be made of nitrile in accordance with ASTM D 2000, Line Call Out 2CA615A25B24.
      7) Perform grooving of the pipe wall only on standard or heavier schedule weight pipe.
         a) For pipe with wall thickness less than standard weight, weld a shouldered end on the pipe in accordance with AWWA C 606.
         b) Fabricated pipe, pipe conforming to AWWA C 200, shall have shouldered ends welded onto the pipe.
         c) Shoulder: Type B or D in accordance with AWWA C 606.
      8) Couplings and Grooving: As manufactured by Gustin-Bacon Piping Products, Victaulic Company of America, or equal.
   b. Fittings for Grooved Joint Piping: Ductile iron conforming to ASTM A 536, Grade 65-45-12, or malleable iron conforming to ASTM A 47, Grade 32510,

and as follows:

1) Where cast fittings are not made, standard fittings including large diameter elbows shall be made of forged steel conforming with ASTM A 105, Grade B with 0.375 inch wall thickness, or shall be standard segmentally welded fittings fabricated of Schedule 40 carbon steel pipe.
   a) Grooves: As manufactured by Gustin-Bacon Piping Products, Victaulic Company of America, or equal.
2) Fittings for grooved joint piping shall be furnished by the manufacturer of the grooved joint material.
3) Fittings for grooved joint piping shall be for rigid-grooved type joints.
4) Connection to flanged units shall be by means of flange to grooved joint adapters.
   a) Where the flanged to grooved joint adapters interfere with the operation of adjacent valves, pumps, or other items, the connection shall be by means of a spool with one end flanged and the other grooved, long enough to prevent interference with adjacent valves, pumps, or other items.

C. Steel Pipe Lining and Coating:

1. General:
   a. Except where otherwise specified in the Specifications and indicated on the Drawings, lining and coating for steel pipe shall be as specified hereinafter.
   b. Pipe Coating:
      1) Except as otherwise specified or indicated on the Drawings, provide underground steel piping with one of the coatings specified hereinafter.
      2) Extend pipe coating for underground piping 6 inches above finish grade or finish floor, and neatly terminate.
      3) Field paint aboveground steel pipe as specified in Part 3 of this Section.
2. Cement-mortar Lining and Coating:
   a. Lining:
      1) Shop apply cement-mortar lining for steel pipe, interior, in accordance with AWWA C 205; or, at the option of CONTRACTOR, field apply with a pipe lining machine.
   b. Coating:
      1) Cement-mortar Coating for Steel Pipe Exterior: In accordance with AWWA C 205, modified as follows:
         a) Portland Cement: ASTM C 150, Type II, low alkali.
         b) Sand: AWWA C 205 except that the total percentage of deleterious material shall not exceed 3 percent.
3. Coal-Tar Enamel Lining:
   a. Coal-tar enamel lining for interior of steel pipe: In accordance with AWWA C 203.
4. Coal-Tar Epoxy Lining:
   a. Coal-tar Epoxy Lining for Interior of Steel Pipe: Epoxy bituminous coating as specified for submerged metal in Section 09960, High Performance Coatings.
   b. Polyurethane Lining for Interior of Steel Pipe: Polyurethane as specified for submerged metal in Section 09960, High Performance Coatings.
5. Plastic Tape Wrap:
   a. Plastic tape wrap for exterior of steel piping shall consist of a prime coat followed with spirally applied tape layers to a minimum system thickness of 80 mils.
   b. Plastic Tape Wrap Coating: Plastic tape wrap for exterior of steel pipe, fittings and specials shall conform to the requirements of AWWA C209 and AWWA C214 as applicable.

6. General: The tape coating system shall consist of primer, one layer of 20 mil inner wrap, one layer of 30 mil outer wrap and a second layer of 30 mil outer wrap, for a total coating thickness of 80 mils. All materials shall be of products of the same manufacturer.
    a. Primer: As manufactured by one of the following or equal:
        1) Polyken Pipeline Coatings, Number 1029 or 1039 Primer.
        2) The Tapecoat Company, TC Omniprime Primer.
    b. Pipe Wrap:
        1) First Wrap: As manufactured by one of the following or equal:
            a) Polyken Pipeline Coatings, Number 989-20 (932-50 for fittings).
            b) The Tapecoat Company, Tapecoat 1020B.
        2) Middle Wrap: As manufactured by one of the following or equal:
            a) Polyken Pipeline Coatings, Number 955-30.
            b) The Tapecoat Company, Tapecoat 2030B.
        3) Finish Wrap: As manufactured by one of the following or equal:
            a) Polyken Pipeline Coatings, Number 956-30 White.
            b) The Tapecoat Company, Tapecoat CT 2030B.
7. Filler Tape:
    a. Polyken 939.
    b. or equal.
8. Joint Wrap:
    a. Polyken 932-50, white Hi-Tack Joint Wrap tape.
    b. Tapecoat Company, Joint Tape.
9. Application on Welded Joints:
    a. Remove sharp edges of weld spatter and slag wit a file or ball peen hammer before wrapping joints.
    b. Apply plastic tape wrap in accordance with AWWA C-209.
        1) Clean and prime all surfaces, then apply a wrap of 0.125 thick by 2 inch wide filler tape centered on the weld. Push and knead the tape into all voids.
    c. Apply two wraps of 30 mil joint tape; or the tape may be half lapped to obtain the double thickness.
    d. Finish Wrap: Apply final wrapping in same manner.
    e. Wrap fittings, valves, and other odd shaped components in the pipeline with first and finish wrapping over the prime coat , total thickness of tape 80 mils.
10. Extruded Coatings:
    a. Coat pipe with a film of high density polyethylene, plant extruded onto the pipe over a thermoplastic adhesive primer.
        1) Coating Thickness: In accordance with the extruder's standards but not less than 6 pounds per diameter inch per 100 feet of pipe.
        2) Coating: Manufacturers: One of the following or equal:
            a) Plexco (Pipe Line Service Co.).
            b) Extrucoat.

D. Rubber Lined Piping:
1. General:
    a. Rubber lined piping for abrasion resistant services: Black steel piping conforming to ASTM A 53, Schedule 40, lined as specified herein.
2. Fittings and Couplings:
    a. Fittings: Grooved joint type, machined for rubber lining.
    b. Couplings: Grooved type.
3. Lining Material:
    a. Rubber for Rubber Lined Piping: Neoprene compounded to provide maximum

resistance to abrasion, temperature variations, and aging, and shall have a Durometer A hardness of 60 within 5.

4. Lining Application:
   a. Preparation:
      1) Immediately before application of adhesive for rubber lining, sandblast metal surfaces to obtain a bright, clean, and dry surface.
      2) The interior of the piping shall be free of sunken seams or other defects that may detract from the rubber lining quality.
   b. Application:
      1) Prepare the metal and apply the lining to provide a uniform thickness of rubber and a uniform finished diameter.
         a) Rubber Lining: Not less than 1/4 inch thick, applied to provide a smooth and continuous surface.
         b) Apply such that lining does not have circumferential seams.
      2) Return rubber lining at ends of pipe and openings in fittings over the end as recommended by the lining manufacturer.
      3) Apply rubber lining in a manner that provides continuous and uninterrupted adhesion to the piping walls.
         a) Air pockets, blisters, and similar defects shall be cause for rejection of the item wherein such defects are found.
5. Testing Lining Adhesion:
   a. Testing for adhesion: In accordance with ASTM D 429, Method B.
      1) Conduct pull test with not less than 35 pounds at 45 degree angle.
   b. Do not install items which fail the pull test.

E. Fabricated Steel Piping Fittings and Specials:
1. General: Specified herein are the design and fabrication of fabricated steel piping fittings and specials, which include elbows, branches, nozzles, manifolds, headers, heads, collars, stiffeners, reinforcements, and other steel fabrications relating to steel piping, but shall not include steel pipe.
2. Design:
   a. CONTRACTOR shall design and detail fittings and specials.
      1) Design: In accordance with the recommended procedures in AWWA Manual M 11, as complemented and modified herein.
      2) Nozzles: Reinforced in conformance with recommended practice in AWWA M 11, Steel Pipe Manual.
      3) Design reinforcing for fittings and specials for the specified test pressure.
      4) Fittings shall conform in dimension to AWWA C 208, complemented with the provisions specified herein.
      5) The working stress for steel used for fabrication of pipe shall not exceed 50 percent of the yield stress.
   b. The thickness of pipe, large elbows, and headers, except header nozzles, shall be the thicker of:
      1) The thickness designed in accordance with the design methods specified in the preceding paragraph “Fabricated Steel Piping Fittings and Specials.”
      2) The thickness indicated on the Drawings.
      3) The following thicknesses:
         a) For Pipes Smaller than 72 inches in Diameter: Minimum 1/4 inch.
         b) For Pipes 72 inches in Diameter and Larger: Minimum 5/16 inch.
   c. Elbows shall be of the number of pieces specified under paragraph Steel Pipe Fittings, “Welding and Fittings”, and thickness of material shall conform to thickness of pipe or manifold shells specified.

d. Ends of fittings to be welded to pipe shall be beveled for welding.

3. Fabrication:
   a. Shop fabricate steel piping fittings and specials in units as long as practicable for safe hauling and installation. Minimize number of field welds.
   b. Fabricate fittings and specials to uniform lengths with proper end clearance for the specified types of joint or attachment.
   c. Fabricate fittings and specials to allow field assembly without cutting or special work.
   d. Where specified in the Piping Schedule in Section 15052 - Pipes and Pipe Fittings, or indicated on the Drawings, the inside of fabricated steel manifolds and other fittings and specials shall receive a cement-mortar lining in accordance with AWWA C 205.
      1) Reinforce lining for piping 24 inches in diameter and larger with wire fabric.
   e. Do not weld flanges to nozzles until the nozzles and reinforcements are completely welded to the header.
      1) Accurately space and align flanges so that when connections have been made there will be no stress on the header, piping, or equipment. Properly locate and align equipment.
4. Dished Heads:
   a. Dished Heads on 84 inch Diameter and Smaller Manifolds: 1 piece (seamless) spherically dished (torispherical) heads.
      1) Larger heads may be seamed.
   b. Dish Radius: Same dimension as the outside diameter of the head measured at skirt.
   c. Skirt Face Length: Not less than 3 inches.
   d. Design heads in conformance with recommended practice in AWWA M 11, Steel Pipe Manual.
5. Testing: No shop testing will be required for manifolds or piping connected thereto.

F. Steel Pipe, Cement-mortar Lined and Coated:
1. General:
   a. Applicable Standards: Cement-mortar lined and coated steel pipe shall conform to the standards specified in Part 1 of this Section.
   b. Identification Marks: Provide identification marks in compliance with AWWA C 200. These marks shall be stenciled or otherwise shown at the top of the piping items exterior, including the following information:
      1) Name or trademark of the manufacturer.
      2) Date of manufacture of the item.
      3) Internal diameter in inches.
      4) Number of the item, sequential from initial to end station.
   c. Diameter Designation: The pipe diameter specified in the Specifications and indicated on the Drawings shall be the clear inside diameter after application of the cement-mortar lining with a tolerance of plus 0 inch and minus 1/4 inch.
2. Design:
   a. Pipe and fittings shall be designed by CONTRACTOR.
   b. Design: In accordance with the recommended procedures in AWWA Manual M 11, as complemented and modified herein.
   c. Thicknesses of Pipe, Fittings and Specials Shall Be the Thicker Of:
      1) The thickness designed in accordance with the design methods specified in the preceding Subparagraph 2.
      2) The thickness indicated on the Drawings.
      3) The following thicknesses:
         a) For pipes 26 inches and less in nominal diameter, not less than 1/4

inch.
b) For pipes more than 26 inches and less than 38 inches in nominal diameter, not less than 5/16 inch.
c) For pipes 38 inches to and including 54 inches in nominal diameter, not less than 3/8 inch.

d. The working stress for steel used for fabrication of pipe shall not exceed 50 percent of the yield stress.
e. Break longitudinal and girth seams for straight seam pipe shall be no greater in number than would be required for the fabrication of pipe with 96 inch by 120 inch steel plates.
1) Break longitudinal seams at the girth seams.
f. Calculate earth loads using the following formula:

1) W = [X] x H x B
2) wherein the various terms shall have the following meaning:
3) W:Earth load, pounds per linear foot of pipe.
4) H:Height of fill over the pipe, feet.
5) B:Outside diameter of the pipe, feet.
6) x: Mathematical symbol for multiplication.

g. Add AASHTO's H-20 loading to earth loads.
h. Design pipe, fittings and specials for a deflection, under external loads, not to exceed 2 percent of the diameter.
1) Stiffness computations shall not consider the effect of the cement-mortar lining and coating.
2) Calculate deflection using the Spangler formula and the following values:
a) Bedding constant K = 0.100.
b) Modulus of soil reaction E' = 700 pounds per square inch.
c) Deflection lag constant D_1 = 1.00.
i. Where piping is designated to be flanged or welded in order to restrain thrust, the design of the cylinder and flange or welded joint shall take into account the effect of stresses caused by thrust loads.
j. Steel cylinder shall be subject to no more than the lesser of 15,000 pounds per square inch or 50 percent of the steel yield stress.

3. Materials:
a. Cement: ASTM C 150, Type II, low alkali.
b. Gaskets shall be as specified in Section 15052 and meet the following requirements:
1) Minimum tensile strength, tested in accordance with ASTM D 412, between 2,000 and 2,700 pounds per square inch.
2) Minimum elongation, tested in accordance with ASTM D 412, between 350 and 400 percent.
3) Shore A durometer hardness, tested in accordance with ASTM D 2240, between 50 and 65.
4) Specific gravity, tested in accordance with ASTM D 297, between 0.90 and 1.50.
5) Maximum compression set, tested in accordance with Method B of ASTM D 395, 20 percent.
6) Maximum tension strength loss, tested in accordance with ASTM D 573 at 96 hours, 70 degrees Centigrade, in air, 20 percent.
7) Maximum elongation loss, tested in accordance with ASTM D 573 at 96 hours, 70 degrees Centigrade, in air, 20 percent.
8) Maximum absorption, tested in accordance with ASTM D 471 at 48

hours, 70 degrees Centigrade, in air, 5 percent.

4. Fabrication:
   a. Joints: Except as otherwise specified or indicated on the Drawings, provide bell and spigot type joints with rubber gaskets.
      1) Bell and Spigot Rings: Rolled Carnegie shape M-3516.
   b. Flanges: AWWA C 207, Class D, steel ring, and as follows:
      1) Match pipe flanges to the valve flanges.
         a) At flanged joints connecting to valves, provide a steel pipe section without rod reinforcing and not less than 24 inches in length.
         b) Apply cement-mortar lining and coating to the steel pipe section.
   c. Shop Coat of Primer: Flanges and portions of pipe not covered with cement-mortar shall be given a shop coating of primer.
   d. Bend Radii of Fittings: Not less than 2.5 times the nominal diameter.

PART 3 EXECUTION

3.01 INSTALLATION

A. Joints:
   1. Steel pipe joints shall be screwed, welded, flanged, grooved, or made with flexible joints. The type of joint for piping is specified in the Piping Schedule in Section 15052.
   2. In addition to the joints indicated on the Drawings, provide unions, flexible couplings, flanged joints, and other types of joints or means necessary to allow ready assembly and disassembly of the piping.
   3. Unless otherwise indicated on the Drawings or specified in the Piping Schedule in Section 15052, pipe joints shall be as follows:
      a. Pipe smaller than 2 inches in nominal diameter shall have screwed joints or flexible couplings.
      b. Pipe 2 inches to 4 inches in nominal diameter shall have screwed joints, flanged joints, welded joints, or joints made with flexible couplings.
      c. Pipe larger than 4 inches in nominal diameter shall have flanged joints, welded joints, or joints made with flexible couplings.

B. Screwed Joints:
   1. Perform threading with clean, sharp dies.
      a. Wavy, rough, or otherwise defective pipe threads are not acceptable.
   2. Make screwed joints tight and clean with an application of Teflon tape or approved paste compound applied to the male threads only, except as follows:
      a. Make up liquid and dry chlorine lines, and liquefied petroleum gas lines, with litharge and glycerine.
   3. Provide railroad type unions with bronze-to-iron seat, galvanized where used with galvanized pipe.
      a. Flanged joints may be used instead of unions.

C. Flanged Joints:
   1. In flanged joints, flanges shall come together at the proper orientation with no air gaps between the flanges after the gaskets are in place.
   2. Attach slip-on flanges to pipe by two fillet welds, in accordance with AWWA C 207.
   3. Secure welding neck flanges with full penetration butt welds without backing rings.
      a. After welding in place, the faces of flanges shall be perpendicular to the axis of the pipe, or, in the case of fittings, at the proper angle to each other, and bolt holes shall be in proper alignment.

D. Welded Joints:
   1. Welded joints shall be electric welded in accordance with AWWA C 206.
   2. Welders shall be qualified pursuant to the provisions of AWWA C 206.
      a. Welders' testing shall be at the CONTRACTOR's expense, including cost of test nipples, welding rods, and equipment.
   3. Do not weld galvanized pipe.

E. Grooved Joints:
   1. Piping with grooved joints shall be installed where indicated on the Drawings and may be installed in place of flanged piping and screwed piping, except that grooved joint piping shall not be used in the following installations:
      a. In underground and underwater installations.
      b. In piping subject to test pressures of 150 pounds per square inch gauge, or more.
      c. In steam and gas piping.
      d. In sludge and scum piping designed to be steam cleaned.
   2. Assemble in accordance with manufacturer's published instructions.
   3. Support grooved-end pipe in accordance with manufacturer's recommendations. In addition, provide at least 1 support between consecutive couplings.

F. Lining and Coating:
   1. Field paint aboveground steel pipe as specified in Section 09960, High Performance Coatings.
   2. Field applied cement-mortar lining shall be of the same density, smoothness, and thickness as shop applied lining, and shall conform to applicable portions of AWWA C 602.
   3. Plastic tape wrap application procedures shall be in accordance with manufacturer's published instructions.
      a. Apply primer with brush, without runs and drips.
      b. Lap wrapping not less than 1/2 inch. A single wrap lapped 50 percent or more will not be acceptable.
      c. Application on Welded Joints:
         1) Remove sharp edges of weld spatter and slag with a file or ball peen hammer before wrapping welded joints.
         2) Apply a single thickness of tape base wrap over the primer, around the weld.
         3) Start first wrapping 4 inches back on the pipe wrap, spiral wrap tape over the joint holding the proper tension and overlap, and finish 4 inches back on the pipe wrap on the other side of the joint.
         4) Apply final wrapping in same manner.
      d. Wrap fittings, valves, and other odd shaped components in the pipeline with first and finish wrapping over the prime coat.
      e. Wrap joints, fittings, valves, and other irregular shapes of piping with extruded coatings with tape as specified in this Subparagraph.
   4. Protect lining of fabricated steel piping fittings and specials during hauling, installation, and operation.
   5. Finish joints of fabricated steel piping fittings and specials as specified for pipe lining after field welding is done.
   6. After final field welding of fabricated steel piping fittings and specials, complete the lining and exterior painting at and near the welded connections.
      a. Repair or replace lining damaged as a result of welding heat, handling, or other causes.

3.02 FIELD QUALITY CONTROL

A. Testing: Fabricated steel manifolds shall be field tested with the pipe to which they connect.

B. Holiday Detection Testing of Plastic Tape Wrap Coatings:
   1. Perform a complete high voltage electrical inspection (holiday detection testing) of all steel piping systems and fittings coated with plastic tape wrap prior to burying.
      a. Perform high voltage electrical inspection in strict accordance with NACE RP0274-74.
      b. Test voltage used for the electrical inspection of the piping and fittings shall be in accordance with the recommendations given by the tape coating manufacturer in their published literature.
      c. Repair all holidays and defects found in the coating system through the high voltage electrical inspection in strict accordance with the tape coating manufacturer's recommendations.
      d. Retest repaired areas in the coating prior to burial of the piping to ensure that all holidays and defects in the coating have been properly repaired.
   2. Before conducting holiday detection testing on any piping systems, submit to the ENGINEER for review and approval technical literature and data describing the testing instrumentation, equipment, electrodes, and other accessories that will be used.
      a. The literature and data shall include complete information covering the operation and use of the testing equipment, including operational voltage ranges.
   3. All holiday detection testing and coating repair work shall be witnessed, inspected and approved by the ENGINEER.

C. Holiday Detection Testing of Extruded Coatings:
   1. Perform a complete high voltage electrical inspection (holiday detection testing) of all steel piping systems and fittings coated with extruded high density polyethylene prior to burial of the pipe.
   2. Perform the high voltage electrical testing as specified under the preceding paragraph “Holiday Detection Testing of Plastic Tape Wrap Coatings .”

END OF SECTION

SECTION 15265

PLASTIC PIPING AND TUBING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Plastic pipe, tubing, and fittings.

B. Related Sections:
1. Section 15052 - Basic Piping Materials and Methods.
2. Section 15251 - Ductile Iron Piping.
3. Section 15956 - Piping Systems Testing.

1.02 REFERENCES

A. American National Standards Institute (ANSI):
1. B 16.12 - Cast Iron Threaded Screwed Drainage Fittings.

B. American Society for Testing and Materials (ASTM):
1. D648 - Test Method for Deflection Temperature of Plastics Under Flexural Load.
2. D1248 - Specification for Polyethylene Plastics Molding and Extrusion Materials.
3. D1784 - Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
4. D1785 - Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120.
5. D2661 - Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings.
6. D2751 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings.
7. D1869 - Specification for Rubber Rings for Asbestos-Cement Pipe.
8. D2412 - Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
9. D2466 - Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
10. D2467 - Specification for Socket-Type Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
11. D2513 - Specification for Thermoplastic Gas Pressure Pipe Tubing and Fittings.
12. D2564 - Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems.
13. D2665 - Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings.
14. D2680 - Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping.
15. D3034 - Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
16. D3212 - Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
17. D3261 - Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.
18. D3350 - Specification for Polyethylene Plastic Pipes and Fittings Materials.
19. D4101 - Specification for Propylene Plastic Injection and Extrusion Materials.

20. F439 - Specification for Socket-Type Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80.
21. F441 - Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80.
22. F477 - Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
23. F483 - Test Method for Total Immersion Corrosion Test for Aircraft Maintenance Chemicals.
24. F493 - Specification for Solvent Cements for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe and Fittings.
25. F645 - Guide for Selection, Design and Installation of Thermoplastic Water Pressure Piping Systems.
26. F679 - Specification for Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings.
27. F714 - Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.

C. American Water Works Association (AWWA):
1. C 900 - Polyvinyl/Chloride (PVC) Pressure Pipe, 4 Inches through 12 Inches, for Water Distribution.

D. Code of Federal Regulations:
1. Title 49 - Transportation.

E. Plastics Pipe Institute (PPI).

F. United States Department of Transportation:
1. Materials Transportation Bureau.

1.03 ABBREVIATIONS

A. ABS: Acrylonitrile-Butadiene-Styrene.

B. CPVC: Chlorinated Polyvinyl Chloride.

C. DWV: Drain, waste, and vent.

D. ID: Inside diameter of piping or tubing.

E. NPS: Nominal pipe size followed by the size designation.

F. NS: Nominal size of piping or tubing.

G. PE: Polyethylene.

H. PP: Polypropylene.

I. PVC: Polyvinyl Chloride.

J. SDR: Standard dimension ratio.

1.04 SUBMITTALS

A. Product Data: Describe materials and installation equipment including fusion machine.

B. Manufacturer's Published Installation Instructions.

C. Certificates:
   1. Submit manufacturer's certificate attesting that plastic pipe, tubing, and fitting types meet specified requirements.
      a. PVC gravity sewer piping: Requirements of ASTM D3034 or ASTM F679, as applicable.
   2. Manufacturer's certification of date of manufacture of plastic pipe and tubing for each lot delivered.
   3. Copies of solvent cement manufacturer's report and certification in accordance with ASTM D2564 for PVC piping, and ASTM F493 for CPVC piping.

D. Qualifications of installation crew for drain, PE piping, including qualifications of the fusion machine technician.

1.05 QUALITY ASSURANCE

A. Fusion Machine Technician Qualifications: 1 year experience in the installation of similar PE piping systems from the same manufacturer.

B. Provide pipe and tubing bearing NSF seal, except for drainage piping.

C. Mark plastic pipe with nominal size, type, class, schedule or pressure rating, and manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect piping materials from sunlight, scoring, and distortion.

B. Do not allow surface temperatures on pipe and fittings to exceed 120 degrees Fahrenheit.

C. Store and handle PE pipe and fittings as recommended by manufacturer in published instructions.

PART 2 PRODUCTS

2.01 MATERIALS

A. Extruding and Molding Material: Virgin material containing no scrap, regrind, or rework material except where permitted in the referenced standards.

B. Fittings: Same material as the pipe and of equal or greater pressure rating, except that DWV fittings need not be pressure rated.

C. Unions 2-1/2 Inches and Smaller: Socket end screwed unions. Make unions 3 inches and larger of socket flanges with 1/8 inch full face soft EPDM gasket.

2.02 PVC PIPING, SCHEDULE TYPE

A. Materials:
   1. PVC Schedule Type Piping: Designation PVC 1120 conforming to ASTM D1785 and appendices thereto.

a. Pipe and Fittings: Extruded from Type I, Grade 1, Class 12454-B material in accordance with ASTM D1784.
b. PVC Schedule Type Piping: Schedule 80 unless otherwise indicated on the Drawings.

2. Fittings:
a. Supplied by pipe manufacturer.
b. Pressure Fittings: In accordance with ASTM D2466 or ASTM D2467.
c. DWV Fittings: In accordance with ASTM D2665.

3. Solvent Cement: In accordance with ASTM D2564.

2.03 PVC PIPING, CLASS TYPE

A. Materials:
1. PVC Pipe, Class Type: ASTM D2241, except that pipe shall have outside diameters of ductile iron pipe sizes rather than of iron pipe sizes.
a. PVC Class 150 pipe: SDR not more than 18, and Uni-Bell Standard UNI-B-2-72.
b. PVC Pipe, Class Type: AWWA C 900, pressure Class 150 and SDR not more than 18.
c. Bell Section: At least as strong as the pipe barrel.

2. Fittings:
a. If not otherwise scheduled, use cast or ductile iron fittings as specified under Section 15251, sized for the dimensions of the pipe being used.
a. PVC when scheduled:
1) Iron Pipe Size Fittings: SDR21, SDR26, SDR32.5 and SDR41 IPS PVC Gasketed Tees, Bends, and Reducers conform to the following Specifications and Standards. ASTM D1784, “Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.” ASTM D2241 “Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDRSeries). ”Fittings shall be: Class 200, SDR21 or Class 160, SDR26 or Class 125 SDR32.5 or Class 100 SDR41 as scheduled. Fittings shall confirm to ASTM D3139, “Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.” and ASTM F477, “Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.”
2) Manufacturer: Specified Fittings or equal.
b. Fittings for Joining Pipe 4 Inches in Diameter and Larger: Push-on rubber gasket or mechanical joint type.

3. Gaskets: **EPDM** meeting the requirements of ASTM D1869 or ASTM F477.

2.04 PVC GRAVITY SEWER PIPING

A. Materials:
1. Polyvinyl-chloride (PVC) Gravity Sewer Pipe and Fittings: In accordance with ASTM D3034 for piping NPS 15 and smaller diameter, and to ASTM F679 for piping NPS 18 and larger diameter.
a. Referenced standards apply as complemented and modified herein.
b. Fittings: Supplied by the pipe manufacturer.

2. PVC Compounds: Class Number 12454-B, as specified in ASTM D1784.
a. Stabilizers, antioxidants, lubricants, colorants, and other additives and fillers: Not to exceed 10 parts by weight per 100 of PVC resin in the compound.

3. Pipe NPS 15 and Smaller Diameter: Wall thickness SDR 26.
a. Joints: Push-on joints in accordance with ASTM D3212.

4. Pipe NPS 18 and Larger diameter: Type T-1 with an SDR not greater than 35.

a. Joints: Integral bell gasketed joints in accordance with ASTM F679.
b. Bell: Thickened, integral with the pipe wall, and at least as strong as the pipe barrel.
c. Gasket Ring: Locked into the bell.
d. Spigot End of the Pipe: Marked by the manufacturer to identify the final in-place position of the spigot in the bell.

5. Fittings, Including Wyes, Tees, Elbow Caps, Plug Adapters, and Manhole Waterstops: Same wall thickness as the pipe.
   a. Fittings: Factory molded with joints and gaskets equal to those of the pipe.
6. Gasket: EPDM conforming to ASTM D3212 or ASTM F477.
   a. Keep rubber gasket in place during pipe joining.
7. Gasket for Connection to Manhole: Stainless steel clamp with gasket or similar device to seal the penetration.

2.05 CPVC PIPING

A. Materials:
1. CPVC Pipe: Schedule 40 or Schedule 80, as specified, in accordance with ASTM F441 and Appendix, CPVC 4120.
   a. Pipe: Extruded from Type IV, Grade 1, Class 23447 material in accordance with ASTM D1784.
   b. Manufacturers: One of the following or equal:
      1) Charlotte Pipe and Foundry Company.
      2) Eslon Thermoplastics, Inc.
      3) Harvel Plastics, Inc.
2. Fittings: Conform to ASTM F438 or ASTM F439 for pressure fittings, as appropriate to the service and pressure requirement.
   a. Fittings: Supplied by the pipe manufacturer.
   b. Manufacturers: One of the following or equal:
      1) Colonial Engineering.
      2) Eslon Thermoplastics, Inc.
      3) Chemtrol.
      4) Spears Manufacturing Company; or equal.
3. Solvent Cement: In accordance with ASTM F493.

2.06 PE TUBING AND FITTINGS

A. Materials:
1. PE Piping for air service rated at 160 PSI minimum.
2. Small Bore PE Tubing: Black flexible virgin PE tubing, OD copper tubing size.
   a. Plastic tubing ID as follows:
      1) For NS 1/4 inch, ID of 0.170 inch.
      2) For NS 5/16 inch, ID of 0.187 inch.
      3) For NS 3/8 inch, ID of 0.251 inch.
      4) For NS of ½ inch, an ID of 0.375 inch.
3. Fittings: Compression fittings, Dekoron E-Z; or equal.
4. Protective Sheath: Manufacturers: One of the following or equal:
   a. Dekoron, "Poly-Cor."
   b. Parker Hannifin Corp./Fluidconnector Products, Parflex Division, Multitube.
5. Plug-in Fittings for Connection to Instruments: Brass quick-connect fittings.

2.07 PE PIPING FOR UNDERGROUND GAS DISTRIBUTION

A. Materials:

1. Extra High Molecular Weight (EHMW) High Density Polyethylene (HDPE) for gas distribution.
2. Manufacturers: One of the following or equal:
   a. Polypipe GDB30 PE3608 Gas Pipe
   b. DuPont.
   c. Amsted Industries, Inc., Plexco.
3. Design Pressure Rating of 125 PSIG at 70 F.
4. PE Piping and Tubing for Underground Gas Distribution: Manufactured from a compound conforming to ASTM D1248 Type III Category 5, PE 3608.
   a. Pipe: In accordance with ASTM D2513.
   b. Maximum SDR: 11.
5. Fittings: In accordance with ASTM D2513 for socked fusion joints, and ASTM D3261 for butt fusion joints.

2.08 PE PIPING FOR DRAIN, WASTE, AND VENT

A. General:
   1. Pipe and Fittings: High density polyethylene.
   2. Dimensions of Pipe and Fittings: Based on controlled outside diameter in accordance with ASTM F714.
      a. SDR: Equal to or less than 11.

B. Materials:
   1. Manufacturers: One of the following or equal:
      a. DuPont, Sclairpipe.
      b. Polaris, Duratuff; or equal.
         1) Pipe, Fittings, and Adapters: Furnished by the same manufacturer, and compatible with components in the same system and with components of other systems to which connected.
   2. Polyethylene: In accordance with ASTM D1248, Type III, Class C, Category 5, Grade P34; listed by the Plastic Pipe Institute under the designation PE 3408; and have a minimum cell classification, in accordance with ASTM D3350, of 345434C.
      a. Pipe and Fittings: Manufactured from material with the same cell classification.

2.09 BRAIDED VINYL TUBING (BRV)

A. General:
   1. Tubing for chemical service.
   2. Synthetic fiber braid sandwiched between two layers of plasticized PVC.
   3. Rated for working pressure of 176 psi for tubing sizes one inch OD or less.
   4. Pipe diameters indicated on pipe schedule are inside diameters.
   5. Fittings shall be PVC inserts with 316 stainless steel hose clamps.
   6. Pipe diameters as indicated below.

ID (in)	OD (in)	Wall Thickness (in)
0.375	0.5625	0.09375
0.5	0.75	0.125
0.75	1.0	0.125
1.0	1.3125	0.15625

2.10 SOURCE QUALITY CONTROL

A. PVC Piping, Schedule Type:
   1. Mark pipe and fittings in accordance with ASTM D1785.

B. PVC Piping, Class Type:
   1. Test pipe to withstand, without failure, 600 pounds per square inch, gauge, hydrostatic pressure for a minimum of 5 seconds.
   2. Test integral bell with the pipe.

C. PVC Gravity Sewer Piping:
   1. Mark pipe and fittings in accordance with ASTM D3034. Also mark the production control code.

PART 3 EXECUTION

3.01 INSTALLATION

A. General:
   1. Where not otherwise specified, install piping in accordance with ASTM F645, or manufacturer's published instructions for installation of piping, as applicable to the particular type of piping.
   2. Provide molded transition fittings for transitions from plastic to metal or IPS pipe. Do not thread plastic pipe.
   3. Locate unions where indicated on the Drawings, and elsewhere where required for adequate access and assembly of the piping system.
   4. Provide serrated nipples for transition from plastic pipe to rubber hose.

B. Installation of PVC Piping, Schedule Type:
   1. Solvent weld joints in accordance with ASTM D2855.
   2. Install piping in accordance with manufacturer's published instructions.

C. Installation Of PVC Piping, Class Type:
   1. Install piping in accordance with the Appendix of AWWA C 900 complemented with manufacturer's published instructions.
   2. Provide for contraction and expansion at each joint with a rubber ring and integral thickened bell as part of each joint.

D. Installation of PVC Gravity Sewer Piping.
   1. Install piping in accordance with manufacturer's published instructions, as modified and complemented herein.
   2. Install pipe and fittings not later than 4 months after their manufacture.
   3. Provide for contraction and expansion at joints with a gasket ring.
   4. Provide plugs or caps for stubs and branch pipes left unconnected to laterals.
   5. Lubricate and assemble joints in accordance with the pipe manufacturer's published instructions.
   6. Make connections to manholes with a manhole gasket that prevents infiltration and exfiltration through the penetrations.
      a. Provide opening for connection large enough to allow subsequent grouting around the manhole gasket.
      b. Grout around the manhole gasket and seal the opening.

E. Installation of CPVC Piping:
   1. Clean dirt and moisture from pipe and fittings.
   2. Bevel pipe ends in accordance with manufacturer's instructions with chamfering tool or file. Remove burrs.

3. Use solvent cement and primer formulated for CPVC.
4. Use primer on pressure and non-pressure joints.
5. Do not solvent weld joints when ambient temperatures are below 40 degrees Fahrenheit or above 90 degrees Fahrenheit unless solvent cements specially formulated for these conditions are utilized.

F. Installation of Polyethylene (PE) Tubing and Fittings:
1. Install small bore PE tubing in accordance with manufacturer's printed instructions, in neat straight lines, supported at close enough intervals to avoid sagging, and in continuous runs wherever possible.
2. Bundle tubing in groups of parallel tubes within protective sheath.
3. Tubes within protective sheath may be color coded, but protect tubing other than black outside the sheath by wrapping with black plastic electrician's tape.
4. Grade tubing connected to meters in 1 direction.

G. Installation of PE Piping for Underground Gas Distribution:
1. Socket fuse joints for piping equal or less than NPS 2.
2. Butt fuse joints for piping larger than NPS 2.
3. Install piping in accordance with requirements of the gas utility company and with manufacturer's published instructions.

H. Installation of PE Piping for Drain, Waste, and Vent:
1. Install piping as recommended in manufacturer's published instructions.

3.02 FIELD QUALITY CONTROL

A. Leakage Test for PVC Piping, Class Type:
1. Polyvinyl-chloride (PVC) piping, Class Type: Subject to visible leaks test and to pressure test with maximum leakage allowance, as specified in Section 15956.
2. Pressure Test with Maximum Leakage Allowance: Perform test after backfilling.
a. Pressure: 125 pounds per square inch, gauge.
b. Maximum leakage allowance as follows, wherein the value for leakage is in gallons per 100 joints per hour:

NPS, Inches	1-1/2	2	2-1/2	3	4	6	8	10	12
Leakage	0.41	0.52	0.63	0.76	0.98	1.45	1.88	2.35	2.80

B. Mandrel Tests for PVC Gravity Sewer Piping:
1. Perform Initial Mandrel Test:
a. After cleaning and completion of other tests.
b. After placement and compaction of backfill.
c. Before construction of pavement or surfacing.
d. Not sooner than 30 days after pipe installation.
e. Not later than 60 days after installation.
2. Utilize a 9 rod mandrel with minimum length equal to NPS and diameter as follows:

Nominal Pipe Size (NPS)	Mandrel Diameter, inches

Nominal Pipe Size (NPS)	Mandrel Diameter, inches
6	5.50
8	7.37
10	9.21
12	10.96
15	13.56

3. Test Procedure: Pull the mandrel through the line under test by 1 person, by hand, with reasonable effort, without the aid of mechanical equipment.
4. Failing Test: Where the mandrel test is not successful, remove and replace the section of piping with the obstruction, and test the piping again, including visible leaks test, pressure test with maximum leakage allowance, mandrel tests, and other specified tests.
    a. Correction of excessive deflection or obstructions by methods other than removal of the affected piping and replacement of the removed piping with new piping will not be accepted.

END OF SECTION

SECTION 15956

PIPING SYSTEMS TESTING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Test requirements for piping systems.

B. Related Sections:
   1. Section 01500 - Temporary Facilities and Controls.
   2. Section 15052 - Basic Piping Materials and Methods.

1.02 REFERENCES

A. Uniform Plumbing Code (UPC).

B. National Fuel Gas Code: ANSI Z 223.1 or NFPA 54.

C. American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME):
   1. B31.8 - Gas Transmission and Distribution Piping Systems.
   2. B31.1 - Power Piping.
   3. B31.3 - Process Piping.

D. Uniform Mechanical Code (UMC).

1.03 TESTING REQUIREMENTS

A. General Requirements:
   1. Testing requirements are stipulated in Laws and Regulations; are included in the Piping Schedule in Section 15052; are specified in the specifications covering the various types of piping; and are specified herein.
   2. Requirements in Laws and Regulations supersede other requirements of Contract Documents, except where requirements of Contract Documents are more stringent, including higher test pressures, longer test times, and lower leakage allowances.
   3. Test plumbing piping in accordance with Laws and Regulations, the Uniform Plumbing Code, and UL requirements.
   4. Test Natural Gas or Digester Gas Piping:
      a. For less than 125 pounds per square inch gauge working pressure, test in accordance with Uniform Mechanical Code or the National Fuel Gas Code, whichever is more stringent.
      b. For 125 pounds per square inch gauge or greater working pressure, test per ANSI/ASME B31.3 or ANSI/ASME B31.8, whichever is more stringent.
   5. When testing with water, the specified test pressure is considered to be the pressure at the highest point of the piping section under test. Lower test pressure as necessary to prevent testing the lowest point above a safe test pressure.

B. Furnish necessary personnel, materials, and equipment, including bulkheads, restraints, anchors, temporary connections, pumps, water, pressure gauges, and other means and facilities required to perform tests.

C. Water for Testing, Cleaning, and Disinfecting:
   1. Water for testing, cleaning, and disinfecting will be provided as specified in Section 01500.

D. Pipes to Be Tested: Test only those portions of pipes that have been installed as part of this Contract. Test new pipe sections prior to making final connections to existing piping. Furnish and install test plugs, bulkheads, and restraints required to isolate new pipe sections. Do not use existing valves as test plug or bulkhead.

E. Unsuccessful Tests:
   1. Where tests are not successful, correct defects or remove defective piping and appurtenances and install piping and appurtenances that comply with the specified requirements.
   2. Repeat testing until tests are successful.

F. Test Completion: Drain and leave piping clean after successful testing.

G. Test Water Disposal: Dispose of testing water at location designated by OWNER in accordance with requirements of federal, state, county, and city regulations governing disposal of wastes in the location of the Project and disposal site.

1.04 SUBMITTALS

A. Schedule and Notification of Tests:
   1. Submit a list of scheduled piping tests by noon of the working day preceding the date of the scheduled tests.
   2. Notification of Readiness to Test: Immediately before testing, notify ENGINEER in writing of readiness, not just intention, to test piping. Have personnel, materials, and equipment specified in place before submitting notification of readiness.

1.05 SEQUENCE

A. Clean piping before pressure or leak tests.

B. Test gravity piping underground, including sanitary sewers, for visible leaks before backfilling and compacting.

C. Underground pressure piping may be tested before or after backfilling when not indicated or specified otherwise.

D. Backfill and compact trench, or provide blocking that prevents pipe movement before testing underground piping with a maximum leakage allowance.

E. Test underground piping before encasing piping in concrete or covering piping with slab, structure, or permanent improvement.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 TESTING ALIGNMENT, GRADE, AND DEFLECTION

A. Alignment and Grade:
   1. Visually inspect the interior of gravity piping with artificial light, reflected light, or laser beam.
   2. Consider inspection complete when no broken or collapsed piping, no open or poorly made joints, no grade changes that affect the piping capacity, or no other defects are observed.

B. Deflection Test:
   1. Pull a mandrel through the clean piping section under test.
   2. Perform the test not sooner than 30 days after installation and not later than 60 days after installation.
   3. Use a 9 rod mandrel with a contact length of not less than the nominal diameter of the pipe within one percent plus or minus.
   4. Consider test complete when the mandrel can be pulled through the piping with reasonable effort by 1 person, without the aid of mechanical equipment.

3.02 AIR TESTING METHOD FOR PRESSURE PIPING

A. Air test piping, indicated with "AM" in the Piping Schedule, with air or another nonflammable or inert gas.

B. Test gas, air, liquefied petroleum gas, liquid chlorine, and chlorine gas piping by the air test method.
   1. Test chlorine piping with dry air or nitrogen having a dew point of minus 40 degrees Fahrenheit or less. Supply temporary air driers as necessary.

C. Test at pressure as specified in Piping Schedule in Section 15052.
   1. Provide temporary pressure relief valve for piping under test. Set at the lesser of 110 percent of the test pressure or 50 pounds per square inch gauge over the test pressure.
   2. Air method test pressures shall not exceed 110 percent of the piping maximum allowable working pressure calculated in accordance with the most stringent of ANSI/ASME B31.1, ANSI/ASME B31.3, ANSI/ASE B31.8, or the pipe manufacturer's stated maximum working pressure.
   3. Gradually increase test pressure to an initial test pressure equal to the lesser of one-half the test pressure or 25 pounds per square inch gauge.
   4. Perform initial check of joints and fittings for leakage.
   5. Gradually increase test pressure in steps no larger than the initial pressure. Check for leakage at each step increase until test pressure reached.
   6. At each step in the pressure, examine and test piping being air tested for leaks with soap solution.
   7. Consider examination complete when piping section under test holds the test pressure for 15 minutes without losses.

3.03 TESTING GRAVITY FLOW PIPING

A. Test Gravity Flow Piping Indicated with "GR" in the Piping Schedule, as Follows:
   1. Unless Specified Otherwise, Subject Gravity Flow Piping to the Following Tests:
      a. Alignment and grade.
      b. For plastic piping test for deflection.

c. Visible leaks and pressure with maximum leakage allowance, except for storm drains and culverts.

2. Inspect piping for visible leaks before backfilling. Provide temporary restraints when needed to prevent movement of piping. Pressure test piping with maximum leakage allowance after backfilling.
3. With the lower end plugged, fill piping slowly with water while allowing air to escape from high points. Keep piping full under a slight head for the water at least 24 hours.
   a. Examine piping for visible leaks. Consider examination complete when no visible leaks are observed.
   b. Maintain piping with water, or allow a new water absorption period of 24 hours for the performance of the pressure test with maximum leakage allowance.
   c. After successful completion of the test for visible leaks and after the piping has been restrained and backfilled, subject piping to the test pressure for minimum of four hours while accurately measuring the volume of water added to maintain the test pressure.
      1) Consider the test complete when leakage is equal to or less than the following maximum leakage allowances:
         a) For Concrete Piping with Rubber Gasket Joints: 80 gallons per day per inch of diameter per mile of piping under test.
            (i). Advise manufacturer of concrete piping with rubber gasket joints of more stringent than normal maximum leakage allowance.
         b) For Vitrified Clay and Other Piping: 500 gallons per day per inch of diameter per mile of piping under test.

3.04 TESTING HIGH-HEAD PRESSURE PIPING

A. Test piping for which the specified test pressure in the Piping Schedule is 20 pounds per square inch gauge or greater, by the high head pressure test method, indicated "HH" in the Piping schedule.

B. General:
1. Test connections, hydrants, valves, blowoffs, and closure pieces with the piping.
2. Do not use installed valves for shutoff when the specified test pressure exceeds the valve's maximum allowable seat differential pressure. Provide blinds or other means to isolate test sections.
3. Do not include valves, equipment or piping specialties in test sections if test pressure exceeds the valve, equipment or piping specialty safe test pressure allowed by the item's manufacturer.
4. During the performance of the tests, test pressure shall not vary more than plus or minus 5 pounds per square inch gauge with respect to the specified test pressure.
5. Select the limits of testing to sections of piping. Select sections that have the same piping material and test pressure.
6. When Test Results Indicate Failure of Selected Sections, Limit Tests to Piping:
   a. Between valves.
   b. Between a valve and the end of the piping.
   c. Less than 500 feet long.
7. Test piping for minimum 2 hours for visible leaks test and minimum 2 hours for the pressure test with maximum leakage allowance.

C. Testing Procedures:
1. Fill piping section under test slowly with water while venting air. Use potable water for all potable waterlines and where noted on the Piping Schedule

2. Before pressurizing for the tests, retain water in piping under slight pressure for a water absorption period of minimum 24 hours.
3. Raise pressure to the specified test pressure and inspect piping visually for leaks. Consider visible leakage testing complete when no visible leaks are observed.

D. Pressure Test with Maximum Leakage Allowance:
1. Leakage allowance is zero for piping systems using flanged, National Pipe Thread threaded and welded joints.
2. Pressure test piping after completion of visible leaks test.
3. For piping systems using joint designs other than flanged threaded or welded joints, accurately measure the makeup water necessary to maintain the pressure in the piping section under test during the pressure test period.
   a. Consider the pressure test to be complete when makeup water added is less than the allowable leakage and no damage to piping and appurtenances has occurred.
   b. Successful completion of the pressure test with maximum leakage allowance shall have been achieved when the observed leakage during the test period is equal or less than the allowable leakage and no damage to piping and appurtenances has occurred.
   c. When leakage is allowed, calculate the allowable leakage by the following formula:

$$L = S \times D \times P^{1/2} \times 133{,}200^{-1}$$

wherein the terms shall mean:

L = Allowable leakage in gallons per hour.

S = Length of the test section in feet.

D = Nominal diameter of the piping in inches.

P = Average observed test pressure in pounds per square inches, gauge, at the lowest point of the test section, corrected for elevation of the pressure gauge.

x = The multiplication symbol.

3.05 TESTING LOW-HEAD PRESSURE PIPING

A. Test piping for which the specified test pressure is less than 20 pounds per square inch gauge, by the low head pressure test method, indicated "LH" in the Piping Schedule.

B. General:
1. Test pressures shall be as scheduled in Section 15052.
2. During the performance of the tests, test pressure shall not vary more than plus or minus 2 pounds per square inch gauge with respect to the specified test pressure.
3. Test connections, blowoffs, vents, closure pieces, and joints into structures, including existing bell rings and other appurtenances, with the piping.
4. Test piping for minimum 2 hours for visible leaks test and minimum 2 hours for the pressure test with maximum leakage allowance.

C. Visible Leaks Test:
1. Subject piping under test to the specified pressure measured at the lowest end.

2. Fill piping section under test slowly with potable water while venting air.
3. Before pressurizing for the tests, retain water in piping under slight pressure for the water absorption period of minimum 24 hours.
4. Raise pressure to the specified test pressure and inspect piping visually for leaks. Consider testing complete when no visible leaks are observed.

D. Pressure Test with Maximum Leakage Allowance:
1. Pressure test piping after completion of visible leaks test.
2. Accurately measure the makeup water necessary to maintain the pressure in the piping section under test during the pressure test period.
   a. Consider the pressure test to be complete when makeup water added is less than the allowable leakage of 80 gallons per inch of nominal diameter, per mile of piping section under test after 24 hours and no damage to piping and appurtenances has occurred.
   b. Successful completion of the leakage test shall have been achieved when the observed leakage is equal or less than the allowable leakage and no damage to piping and appurtenances has occurred.

E. Optional Joint Test:
1. When Joint Testing Is Allowed by Note in the Piping Schedule, the Procedure Shall Be as Follows:
   a. Joint testing will be allowed only for low head pressure piping.
2. Joint testing may be performed with water or air.
3. Joint test piping after completion of backfill and compaction to the top of the trench.
4. Joint Testing with Water:
   a. Measure test pressure at the invert of the pipe. Apply pressure of 4 feet plus the inside diameter of the pipe in water column within 0.20 feet in water column.
   b. Maintain test pressure for one minute.
   c. Base the allowable leakage per joint on 80 gallons per inch nominal diameter, per mile of piping, per 24 hours equally distributed to the actual number of joints per mile for the type of piping.
   d. Consider the pressure test to be complete when makeup water added is less than the allowable leakage.
   e. Successful completion of the joint test with water shall have been achieved when the observed leakage is equal or less than the allowable leakage.
5. Joint Testing with Air:
   a. Apply test pressure of 3 pounds per square inch gauge with a maximum variation of plus 0.20 and minus 0.00 pounds per square inch.
   b. Maintain test pressure for 2 minutes.
   c. Consider the pressure test to be complete when the test pressure does not drop below 2.7 pounds per square inch for the duration of the test.

END OF SECTION

SECTION 16010

ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Electrical distribution system and utilization equipment.

B. Related Sections:
1. The Contract Documents are a single integrated document, and as such, all Divisions and Sections apply. It is the responsibility of the CONTRACTOR and its subcontractors to review all sections to ensure a complete and coordinated project.
2. Section 01612 - Seismic Design Criteria
3. Section 01614 – Wind Design Criteria

1.02 SYSTEM DESCRIPTION

A. Furnish and install a tested and working electrical system, substantially as indicated on the Drawings and as hereinafter specified. System includes all items not specifically mentioned in these Specifications or indicated on the Drawings or accepted Shop Drawings, but which are obviously necessary to make a complete working installation, and shall be deemed to be included herein.

B. Notify ENGINEER of discrepancies within the Contract Documents and discrepancies between the Contract Documents and actual field conditions.

C. The Specifications and Drawings indicate or specify minimum sizes of equipment, electric devices, and other components of electrical system, but the Specifications and Drawings do not indicate every offset and fitting, or every structural or mechanical difficulty that may be encountered during the execution of the Work.

D. Install equipment at locations indicated on the Drawings as closely as field conditions permit. Obtain accepted equipment submittal dimensions prior to installing pads, conduits, and cable trays.

E. Make minor variations to alignment of equipment and/or installation of raceway systems to avoid conflict with other portions of the Work.

F. Single Line Diagrams Indicate Circuit Voltages. Single line diagrams also indicate wire and conduit sizes, circuit protection rating, and other pertinent data. Use single line diagrams to resolve conflicts. When not indicated on the Drawings, provide grounding in accordance with NEC Article 250 and as specified in Section 16062.

G. Temporary Power:
1. Provide and maintain temporary power, lighting, and telephone systems as needed for construction as specified in Section 01500. Include weatherproof panel(s) for main breakers and electrical power distribution system.

2. Install temporary wiring in accordance with NEC Article 305 with Type SO portable cable, watertight connections, and ground fault interrupting equipment. After construction is completed, remove temporary systems.

H. Structural Design:
1. For all equipment provide seismic calculations in accordance with Section 01612 and wind calculations in accordance 01614.

1.03 SUBMITTALS

A. Shop Drawings and Product Data: Include data on and details of control devices, fixtures, wire, cables, raceways, and other electrical equipment or material, specified or indicated on the Drawings.

B. Cutting and Patching Requests: Submit as specified in Section 01732.

C. Furnish submittals that are fully indexed with a tabbed divider for every component.

D. Project Record Documents: Submit in accordance with Section 01770. Include drawings of wiring terminations at electrical equipment including, but not limited to, terminal/junction boxes, revised Shop Drawings reflecting modifications made during progress of the Work including testing, and revised Specifications and Drawings with conductors identified identically as on the Specifications and Drawings and accepted Shop Drawings. Updated Shop Drawings shall include all drafting work.

E. Provide Complete as-built interconnection and loop drawings for all wiring installed on the project in both AutoCAD and PDF electronic formats.

F. Seismic Connection calculations for equipment and support connection details demonstrating compliance with specified structural design requirements in section 01612 and 01614.

G. Seismic and wind anchoring calculations for all electrical equipment and supports including manufactured standard supports and any support referencing typical details included with the contract drawings.

H. Acceptance Testing Information and Documents: Submit as specified in Section 16950.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements: Perform electrical work, including connection to electrical equipment integral with mechanical equipment, in accordance with latest published requirements of the following codes and code/standard making organizations:
1. American National Standards Institute (ANSI).
2. American Society for Testing and Materials (ASTM).
3. Institute of Electrical and Electronics Engineers (IEEE).
4. Insulated Cable Engineers Association (ICEA).
5. National Electrical Code (NEC).
6. National Electrical Contractors Association (NECA).
7. National Electrical Safety Code (NESC).
8. National Electrical Manufacturers Association (NEMA).
9. National Fire Protection Association (NFPA).
10. State and local codes.
11. California Building Code (CBC).

B. When applicable, materials and equipment used in performance of electrical work shall be listed or labeled by Underwriter's Laboratories or other equivalent, recognized, and independent testing laboratory, for the class of service intended.

C. Qualifications of Low Voltage Equipment Manufacturer:
   1. Manufacturer of proposed product with components uniquely selected by engineering review.
   2. Proprietary bussing and enclosure designs listed by UL in manufacturer's own file for minimum 15 years with satisfactory performance record.
   3. Capable of providing warranty for assembly when built-up with components from various manufacturers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Ship electrical panels, switchgear, switchboards, motor control centers, variable frequency drives, and other electrical distribution equipment in sealed dust and moisture-proof plastic sheet enclosures. Equipment containing dirt, dust, water, grease, rust, or damaged parts or components may be rejected.

B. Provide for delivery, unloading, transportation, and storage of equipment until installation. Protect electrical and instrumentation equipment and panels from physical and environmental damage. Store and maintain equipment in a weatherproof building until installed.

C. Store electrical equipment, including switchgear, motor control centers, variable frequency drives, instrumentation control panels, and other enclosures that house electronic equipment rated for a specified ambient or environmental temperature range, in air conditioned buildings to protect equipment from temperatures above 90 degrees Fahrenheit and heated buildings to protect equipment from temperatures below 40 degrees Fahrenheit. Assume liability for the storage facilities or equipment stored therein.

D. Maintain storage facilities in neat condition with utilities. Maintain stored equipment in same condition as when received.

E. Provide continuous access for inspection of stored equipment.

1.06 SEQUENCING AND SCHEDULING

A. Sequence and Schedule as specified in Sections 01352, 01140, and progress schedule submitted as specified in Section 01324.

B. Coordinate work with ENGINEER to minimize downtime of existing operating equipment and electrical distribution system and to preclude unsafe operations. Notify OWNER 10 days prior to power interruptions. Coordinate downtime with OWNER.

C. Before work is performed on low voltage or medium voltage circuits, or in manholes containing low voltage or medium voltage circuits, identify and de-energize the circuits.

1.07 PROJECT SITE CONDITIONS

A. The following operating conditions are applicable for all equipment of this Specification.

1. Humidity: 0-95 percent. Space heaters shall be provided to prevent condensation.
2. Ambient Temperature: Minus 20 degrees Celsius to plus 50 degrees Celsius.
3. Altitude: Sea level to 200 feet.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 PREPARATION

A. Cutting and Repairing: Cut and patch the Work as specified in Section 01732. Where it becomes necessary to cut into existing work for the purpose of making electrical installations, use core drills for making circular holes. Other demolition methods for cutting or removing shall be reviewed by the ENGINEER prior to starting the work.

3.02 INSTALLATION

A. Corrosion Protection:
   1. Isolate dissimilar metals, except conduit and conduit fittings, that may come in contact, with neoprene washers, 9 mil polyethylene tape, or gaskets.
   2. Restore factory finishes which are damaged or rusted to their original new condition in accordance with manufacturer's instructions.

B. Install electrical work prior to placing floors and walls. Provide all sleeves and openings through floors and walls required for passage of all conduits and other raceways. Sleeves shall be rigidly supported and suitably packed or sealed to prevent ingress of wet concrete or water.

C. Provide all insets and hangers required to support raceways and other electrical equipment. If the inserts, hangers, sleeves, or openings, are improperly placed or installed, do all necessary work to rectify the errors.

3.03 CLEANING

A. Clean each piece of electrical equipment, existing and new, both inside and outside, and retouch equipment to match existing paint.

3.04 PROTECTION

A. Protect products and provide heat to eliminate condensation until acceptance by OWNER.

END OF SECTION

SECTION 16050

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Basic electrical materials and methods.

B. Related Sections:
   1. Section 01612 - Seismic Design Criteria
   2. Section 01614 – Wind Design Criteria

1.02 REFERENCES

A. American Society for Testing Materials (ASTM):
   1. A 525 - Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized), by Hot-Dip Process.

B. National Electrical Manufacturers' Association (NEMA).

1.03 SYSTEM DESCRIPTION

A. Design Responsibility:
   1. The CONTRACTOR providing the electrical support systems shall be considered the designer of the support systems. Typical details included on the contract documents are for minimum standard for style, size, and materials and shall be used as a guide for the CONTRACTOR in designing the specific electrical support systems utilized on the project.
      a. Seismic and Wind Design Criteria: As specified in Section 01612 and 01614 as specified for all electrical support systems utilized for the project, including any typical electrical support details included on the contract documents that are actually utilized.
   2. All electrical supports shall be minimum 304 stainless steel unless otherwise noted on the drawings.

1.04 SUBMITTALS

A. Shop Drawings: Prepare detailed shop drawings illustrating the layout of the support system and identifying the components of the support system. Include schedule, indicating where supports will be installed, and drawings of electrical support system components.

B. Seismic and wind design calculations and details need to be provided per Section 1.03 above.

C. Furnish Submittals in accordance with Sections 01330 and 16010.

D. Product Data showing conformance with project specifications.

1.05 WARRANTY

A. Warranty: Minimum warranty for all equipment to be free of defects in material and workmanship for 1 year from the date of provisional acceptance for on-going municipal operational use of the equipment by the OWNER. Warranty shall cover parts and labor. Provide longer warranties when specified in the individual equipment sections.

B. Where warranty exceeds 1 year, manufacturer's warranty shall be issued in the OWNER's name beginning on the date of provisional acceptance for on-going municipal operational use of the equipment by the OWNER.

C. Provisional acceptance for on-going municipal operational use shall require substantial completion for those elements to be utilized to maintain municipal operations during construction; pass all acceptance testing and all related punch list items shall be completed to the satisfaction of the ENGINEER and OWNER; and the OWNER shall agree in writing to provisionally accept those elements before operational transitioning occurs. Provisional acceptance is limited to those elements described in the written acceptance from the OWNER.

1.06 EXTRA MATERIALS

A. Furnish and install a minimum of 25 percent spare terminal blocks in each terminal/junction box, controls cabinet, PLC cabinet, and Motor Control Centers.
B. Allow a minimum of 15 percent extra wiring of each size.
C. Allow a minimum of 15 percent extra conduit of each size.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Unless specified otherwise indicated on the Drawings, the fabricator of major electrical equipment, such as lighting and distribution panelboards, switchgear, variable frequency drives, and motor control centers, shall also be the manufacturer of the major devices herein.

2.02 MATERIALS

A. Materials, equipment, and parts comprising any unit or part thereof specified or indicated on the Drawings shall be new and unused, of current manufacture, and of highest grade consistent with the industrial industry standards. Damaged materials, equipment, and parts are not considered to be new and unused and will not be accepted.

2.03 EQUIPMENT

A. Support Channels: 316 stainless steel.
   1. Manufacturers: One of the following or equal:
      a. Unistrut.
      b. Superstrut.
      c. Globe Strut.

B. Support Channel Bolts, Nuts, and Washers: 316 Stainless steel.

C. Non-fused Terminal Blocks: Sized as required for conductors.
   1. Manufacturers: One of the following or equal:

a. Square D Company.
b. Buchanan.

D. Fused Terminal Blocks: Circuit isolation, fused switch type, sized as required for conductors. Fuse size shall be based upon actual load and conductors to be protected.
1. Manufacturers: One of the following or equal:
a. Square D Company.
b. Buchanan.

E. Control Relays:
1. Industrial 600 volt, 10 ampere type with contact arrangement and operating coils of proper voltage as required by control circuit sequence; with minimum of 4 reversible-pole contacts; coils sealed by pressure molding.
2. Non-industrial or plug-in type control relays shall be prohibited unless accepted in writing.
3. Manufacturers: One of the following or equal:
a. Square D Co.
b. Cutler-Hammer.

F. Intrinsically Safe Relays:
1. Factory Mutual approved to allow the use of every type of remote pilot device located in Class 1, Division 1 or 2, hazardous areas by providing a pilot circuit incapable of releasing sufficient electrical energy to ignite gases and vapors classified in Groups A, B, C, and D.
2. Output relay with double pole, double throw continuous rating of 10 amperes at 120 volts alternating current], capable of operating on the voltage indicated.
3. Manufacturers: One of the following or equal:
a. B/W - Controls Series 53.
b. Cutler-Hammer - Powered Relay.

G. Nameplates:
1. Type: Black lamicoid with white letters.
2. Fastener: Round head stainless steel screws.

H. Automatic Equipment and High Voltage Warning Signs:
1. Type: Suitable for exterior use and meeting OSHA regulations.

I. Medium Voltage Circuit Raceway Labels: Vinyl plastic.
1. Manufacturers: One of the following or equal:
a. Brady.
b. Seton.

J. Underground Hazard Tape: 6 inches wide.
1. Manufacturers: One of the following or equal:
a. Panduit.

K. Arc Flash Hazard Labels
1. Material and sizes as specified in Section 16305.

PART 3 EXECUTION

3.01 GENERAL

A. Verify dimensions indicated on the Drawings. Actual locations, distances, and levels

will be governed by actual field conditions. The CONTRACTOR shall also review information indicated on the Drawings for architectural, structural, yard, mechanical, and other specialties, and the accepted electrical and mechanical shop drawings, and shall adjust his work to conform to all conditions indicated thereon.

3.02 EQUIPMENT INSTALLATION

A. Anchor electrical equipment to building floors, electrical equipment foundations, or other supports by bolts and anchor bolts and studs.

B. Anchor each piece of electrical equipment with minimum 1/2 inch diameter Type 316 stainless steel bolts, anchor bolts, or studs. Acceptable connectors shall be furnished in each corner of each section of electrical equipment, minimum.

C. Where plates are embedded in concrete supporting electrical equipment, fasten electrical equipment to the embedded plates with minimum 1/2 inch diameter welded studs. Where required, the number of studs connecting the embedded plates to floors shall be increased as required based upon the calculations of seismic forces in order to resist the forces from the electrical equipment supplied. The additional studs shall be deemed as part of these Contract Documents.

3.03 TORQUING

A. After installing and before energizing electrical equipment, torque each bolted bus and cable connection in accordance with manufacturer's recommendations with calibrated torque wrenches. Include each bolt at each connection, both factory and field installed, for motor control centers, variable frequency drives, bus ducts, switchgear, switchboards, and other equipment installed.

3.04 CONDUCTOR FASTENERS

A. Use screw type conductor fasteners and other permanent, such as epoxy conductor adhesives, in junction or pull boxes, termination cabinets, panels, panelboards, switchboards, switchgear, motor control centers, variable frequency drives, or other enclosures containing electrical devices and/or conductors. Do not use glue-on type conductor fasteners.

3.05 SUPPORT CHANNELS

A. Install channels, as required for support of raceways, cable trays, device enclosures, and other electrical equipment.

B. Separate iron or steel supports from aluminum with 1/4 inch neoprene or other non-metallic gaskets.

C. Paint field cuts and scratches of galvanized steel channels with a cold galvanizing spray paint.

3.06 TERMINAL BLOCKS

A. Furnish and install terminal blocks in control panels, cabinets, terminal/junction boxes, variable frequency drives, motor control centers, switchgear and similar equipment and identify the terminal blocks by numbering and labeling in accordance with accepted shop drawings. The terminal blocks shall be circuit isolation fused-switch type where

indicated on the Drawings and as required.

3.07 NAMEPLATES

A. Furnish and install nameplates where indicated on the Drawings or specified.

B. Each disconnect means for service, feeder, branch, or equipment conductors and pushbutton stations shall have nameplates indicating its purpose or identifying the load and circuit numbers.

3.08 AUTOMATIC EQUIPMENT WARNING AND HIGH VOLTAGE SIGNS

A. Place a warning ribbon or other effective means suitable for conditions above underground installations.

3.09 DEMONSTRATION

A. Demonstrate operation of equipment.

END OF SECTION

SECTION 16062

GROUNDING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Grounding electrode systems, consisting of concrete encased bare ground conductors and ground rods. Equipment grounding conductors, ground connections and general requirements for grounding.

B. Related Sections
   1. Refer to Section 16010

1.02 REFERENCES

A. National Electrical Code (NEC), Article 250 - Grounding.

PART 2 PRODUCTS

2.01 MATERIALS

A. Driven Ground Rods:
   1. Copper-covered steel.
   2. 3/4 inch diameter.
   3. 10 feet long, minimum.

B. Ground Conductor: Bare copper.

C. Equipment Grounding Conductors: Conductors shall be same type and insulation as the load circuit conductors.

PART 3 EXECUTION

3.01 INSTALLATION

A. Bond electrical enclosures, including metallic raceways, panels, switchboards and other similar metallic panels, cases and devices associated with power, instrumentation, and control systems to the grounding electrode system.

B. Drive ground rods and install grounding conductors prior to construction of concrete slabs and duct banks.
   1. Extend grounding conductors through concrete to accessible points for grounding equipment and electrical enclosures.
   2. Install grounding system at each structure where switchgear, motor control centers, switchboards, panelboards, panels, or other electrical equipment are installed.

C. Provide either exothermic welded or mechanical connections for grounding cable to rods or cable.

D. When size is not indicated on the Drawings, size grounding conductors in accordance with NEC Table 250-66 and Table 250-122.

E. Install a green insulated equipment grounding conductor, or multi-conductor cable with integral green insulated grounding conductor, with each feeder and branch circuit from the power source grounding means to the load equipment or device.

F. Install ground bushings at both ends of rigid conduit runs. Do not use locknuts. Bond ground bushings to the grounding system.

G. When not indicated on the Drawings, install grounding electrode systems in compliance with NEC-250, Part III.

H. Shield Grounding.
   1. Shielded instrumentation cable shall have its shield grounded at one end only unless shop drawings indicate otherwise. The grounding point shall be at the control panel or at the power source end of the signal carried by the cable.

3.02 FIELD QUALITY CONTROL

A. Test ground resistance per NETA Standards, for entire system and at each building/structure where electrical equipment is installed.

B. Invite ENGINEER to witness ground resistance testing.

C. Where maximum allowable ground resistance of 3 ohms is exceeded, install additional grounding mats or ground rods until ground resistance is equal to or below maximum allowable ground resistance.

END OF SECTION

SECTION 16070

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes Requirements for:
   1. Mounting and supporting electrical equipment and components.

B. Related Sections:
   1. Refer to Section 16050.

1.02 REFERENCES

A. Refer to Section 16010.

1.03 DEFINITIONS

A. Refer to Section 16010.

1.04 SYSTEM DESCRIPTION

A. Support Design Responsibility:
   1. The CONTRACTOR providing the electrical support system shall be considered the designer of the support system. Typical details included on the contract documents are for general minimum standard for style, size, and materials and shall be used as a guide for the CONTRACTOR in designing the specific electrical supports utilized on the project.
   2. Prepare design calculations utilizing the design criteria included in these specifications.
   3. Prepare detailed shop drawings illustrating the layout of the support system and identifying the components of the support system.
   4. Seismic Design Criteria: As specified in Section 01612 as specified for all electrical supports utilized for the project, including any typical electrical support details included on the contract documents that are actually utilized.

B. Design Requirements:
   1. Conform to the requirements of the Building Code.
   2. Demonstrate the Following using Generally Accepted Engineering Methods:
      a. That the anchors to the structure are adequate to resist the loads generated in accordance with the Building Code and equipment requirements.
      b. That the required load capacity of the anchors can be fully developed in the structural materials to which they are attached.
   3. Seismic Withstand Requirements:
      a. Freestanding or wall-hung equipment shall be anchored in place by methods that will meet the requirements for the seismic design indicated in Section 01612.
   4. Wind Withstand Requirements:
      a. All exterior freestanding equipment shall be anchored in place by methods that will meet the requirements for wind design indicated in Section 01614.
      b. Minimum Safety Factor Against Overturning: 1.5.

c. The foundation shall be capable of withstanding all anchor loads.

C. Performance Requirements:
1. Hangers and supports individually and as a system shall resist all weights and code required forces without deflections and deformations.

1.05 SUBMITTALS

A. Furnish submittals in accordance with Sections 01330 and 16010.

B. Product Data:
1. Anchoring and leveling criteria and recommendations for equipment manufacturers:
a. Include these requirements in the installation recommendation submittal required by Section 16010.

C. Shop Drawings:
1. Furnish complete dimensioned and scalable shop drawings of all supporting structures, trapezes, wall supports, etc.
2. Furnish complete anchoring details for pole lights, transformers, control panels, supporting structures, trapezes, wall supports all equipment in excess of 200-pounds and all freestanding supports:
a. Stamped by a Professional Engineer registered in the State where the project is being constructed.
b. Said submittals, by virtue of the fact that they bear the stamp of a registered engineer; will be reviewed for general consistency with the requirements shown in the contract Documents, but not for context, accuracy, or method of calculation.
3. Include data on attachment hardware and construction methods that will satisfy the design loading criteria.

D. Installation Instructions:
1. The written instructions must detail the complete installation of the equipment including rigging, moving, setting into place and anchoring.
2. Provide anchorage instructions and requirements for the equipment based on the seismic conditions of the site as specified in Section 01612:
a. Stamped by a Professional Engineer registered in the State where the project is being constructed.

E. Calculations:
1. All calculations shall be performed, signed and stamped by a Professional Engineer, Registered in the State where the project is being constructed and shall show that all specifications requirements are met. Said submittals, by virtue of the fact that they bear the stamp of a registered engineer, will be reviewed for general consistency with the requirements shown in the Contract Documents, but not for context, accuracy, or method of calculation.

1.06 QUALITY ASSURANCE

A. Refer to Section 16010.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Refer to Section 16010.

1.08 PROJECT OR SITE CONDITIONS

A. Refer to Section 16010

1.09 WARRANTY

A. Refer to Section 16010

1.10 SYSTEM STARTUP

A. Refer to Section 16010.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. One of the following or equal:
   1. Kindorf.
   2. Super Strut.
   3. Power-Strut.
   4. Unistrut.
   5. B-Line.
   6. Rob Roy.
   7. Aickinstrut.

2.02 MATERIALS

A. All areas:
   1. Supports and hardware fabricated from stainless steel.
   2. All hardware, clamps, etc. shall be stainless steel.

B. Indoors, Outdoors, and Corrosive Areas, NEMA 4X:
   1. Supports and hardware fabricated from stainless steel, fiberglass, or PVC coated galvanized steel.
   2. All hardware, clamps, etc. shall be either stainless steel, PVC coated, or fiberglass and shall be of the same material as that of the strut.

C. Use fiberglass preformed channel when attaching conduits to basin walls when in direct contact with earth:
   1. Pipe Hangers and clamps shall be fiberglass and designed for the preformed channel.
   2. All hardware including threaded rod, couplers, nuts, bolts, etc. shall be stainless steel or fiberglass.

D. Outdoor installation materials must be suitable for use in direct sunlight.

2.03 ACCESSORIES

A. Anchors:
   1. Refer to Section 05120.

2.04 FIELD FABRICATION

A. Re-coat all drilled holes and cut surfaces on PVC coated and FRP materials.

2.05 FINISHES

A. Paint and finish all supporting structures in conformance with the Painting and Finishing Sections of the Contract Documents.

PART 3 EXECUTION

3.01 INSTALLATION

A. Refer to Section 16010

B. General:
   1. Equipment Anchoring:
      a. Install equipment in accordance with the printed recommendations of the equipment manufacturer's literature, including anchoring methods and leveling criteria.
      b. Brace and anchor freestanding equipment supports using methods that provide structural support based on the seismic loads and wind loads as indicated in Sections 01612 and 01614:
         1) Lateral deflection at top of supports not to exceed support height divided by 210 unless approved by the ENGINEER.
      c. Provide fabricated steel support pedestals for wall mounted panels that weigh more than 500 pounds:
         1) Fabricate pedestals out of welded angle, tube sections, or preformed channel.
         2) If the supported equipment is a panel or cabinet, the pedestal shall match supported equipment in physical appearance and dimensions.
      d. Provide transformers hung from stud walls and weighing more than 300 pounds with auxiliary floor supports.
   2. Furnish all conduit racks and trapeze structures needed to support the conduits from the building walls or ceiling. Group conduits and position on racks to minimize crossovers, etc.:
      a. Provide the necessary sway bracing to keep trapeze type structures from swaying.
   3. Mount all pull boxes, switches, panelboards, control panels, instruments, etc. in any damp or wet location on minimum of 7/8 inch stainless steel or fiberglass preformed mounting channel. Mount channel vertically along the vertical length of the device so that any water or moisture may run freely behind the device.
   4. Concrete housekeeping pads are required for all floor-standing electrical equipment and conduit penetrations through floor:
      a. Pads shall be a minimum of 3.5 inches above the surrounding floor or grade unless otherwise noted.
      b. Pads shall extend a minimum of 2 inches beyond the extent of the equipment in all directions.
      c. Pads shall be sized for the actual equipment furnished and all future equipment identified on the Contract Drawings.
      d. All edges of the housekeeping pad shall be chamfered.

C. Raceway:
   1. Install all raceway cabinets, boxes, fixtures, and other appurtenances parallel or perpendicular to building lines and level and plumb.
   2. Mount all raceways, cabinets, boxes, fixtures, instruments, devices, etc. on CONTRACTOR-fabricated racks unless otherwise shown on the Contract Drawings.
   3. All raceways shall be supported directly from building structure. Do not suspend raceways or equipment from piping or duct work.

D. Anchor Methods:
   1. Solid Concrete: Epoxy anchors or cast in place anchor bolts. 316 stainless steel anchors.
   2. Metal surfaces: Machine screws or bolts.
   3. Hollow masonry units: Epoxy anchors or cast in place anchor bolts. 316 stainless steel anchors.

E. Support Luminaries from Structural Elements Capable of Carrying the Total Weight:
   1. Provide ceiling or pendent mounted high intensity discharge luminaries with a separate safety chain connecting the lens, reflector, ballast etc. to the building structure.

F. Obtain permission from ENGINEER before drilling or piercing a structural concrete member.

G. Plumbers perforated strap or tape is not acceptable.

H. When supporting devices on metal or wood stud construction bridge studs with mounting channel and mount the devices to the mounting channel.

3.02 FIELD QUALITY CONTROL

A. Refer to Section 16010.

3.03 PROTECTION

A. Refer to Section 16010.

END OF SECTION

SECTION 16075

ELECTRICAL IDENTIFICATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Identification of electrical and instrumentation equipment, conductors, and cables.

1.02 REFERENCES

A. National Electrical Code (NEC):
   1. Article 110 - 22 - Disconnecting Means.
   2. Article 210 - 4 - Multiwire Branch Circuits.
   3. Article 200 - Use and Identification of Grounded Conductors.
   4. Article 408 - Switchboards and Panelboards.
   5. Article 300 - Wiring Methods.

1.03 SUBMITTALS

A. Refer to Section 16050.

B. Product Data: Include tagging system, labels, markers, and hazard tape.

C. Project Record Documents:
   1. Document wire, cable, and conductor tags, and bundle tags installed in accordance with the Contract Documents.
   2. Document installed wire, cable, and conductor tags and bundle tags when not specifically indicated.
   3. Indicate on Record Drawings deviations from accepted shop drawing conductor identification.

1.04 QUALITY ASSURANCE

A. Refer to Section 16010.

PART 2 PRODUCTS

2.01 LABELS

A. Manufacturers: One of the following or equal:
   1. Brady.
   2. Seton.

B. Type: Sleeve type.

2.02 CONDUCTOR AND CABLE MARKERS

A. Manufacturers: One of the following or equal:
   1. Brady.
   2. Seton.

B. Type: Slip-on PVC sleeve or strap-on type.

C. Printed using Brady marker "XC PLUS," or equal.

D. Markers used in tunnels or other wet locations shall be on heat-shrinkable marking sleeves.

E. Use self-laminating vinyl on white background for markers within electrical equipment such as panels, termination cabinets, motor control centers.

2.03 CONDUIT MARKERS

A. Manufacturers: One of the following or equal:
   1. Almtek: Almtek Type Mini-Tag.
   2. Red Lamacoid name plates with stainless steel wire attachment.

PART 3 EXECUTION

3.01 CIRCUIT IDENTIFICATION

A. **This section applies to all new Contractor and new Owner installed wire on the project.**

B. Identify 3-phase system conductors and cables as Phases A, B, and C and identify 1-phase system conductors and cables at electrical equipment including, but not limited to, switchgear, switchboards, panelboards, motor control centers, variable frequency drives, and motors.
   1. Match OWNER's existing electrical system identification scheme or meet requirements of the authority responsible for the project.
   2. 3-Phase 480 Volts AC System Conductors: Phase A, Brown; Phase B, Orange; Phase C, Yellow.
   3. 3-Phase Conductors for 120/208 VAC Circuits: Phase A, Red; Phase B, black, Phase C, Blue.
   4. Neutral Conductor: White for 120 VAC and gray for 277 VAC.
   5. Insulated Equipment Grounding Conductor: Green.
   6. General Purpose AC Control Conductors: Red.
   7. General Purpose DC Control Conductors: Violet

C. Use control cable or instrumentation cable for alarm annunciator field wiring as indicated on the Drawings and specified. Use color coding and phasing consistent throughout the site. Bus bars at panelboards and motor control centers to be connected Phase A-B-C, top to bottom, or left to right facing connecting lugs.

D. Conductors Number 2 American Wire Gauge (AWG) and smaller to be factory color coded with a separate color for each phase and neutral, which shall be used consistently throughout the system. Larger cables to be coded by the use of colored tape.

E. In addition to color coding, for all 1-phase and 3-phase systems, identify each cable (single or multi-conductor) and conductor at each end, in each manhole, pullbox, cable tray, or other component of the raceway system. This identification is applicable to all power, control, alarm, signal, network, and instrumentation cables, and conductors.

F. Identify each cable (single or multi-conductor) and groups or bundles of individual single conductors in each manhole, pullbox, cable tray or other component of the raceway system with circuit identification markers. Implement a "from-to" cable/conductor bundle tagging system as part of this identification effort.

G. Identify each individual conductor at each termination. This includes such locations as switchgear, switchboards, motor control centers, variable frequency drives, control panels, junction/terminal boxes, all field devices, and all other locations where conductors are terminated. Identify the termination of these conductors in accordance with the accepted shop drawings. Tag conductors with sleeve type labels.

H. Where more than 1 nominal voltage system exists, identify each ungrounded system conductor by phase and system. Permanently post means of identification at each branch-circuit panelboard, switchboard, switchgear, motor control center, or other type of power distribution equipment.

I. Include the following minimum information for wire and cable identification.
1. Circuit number or load identification tag number.
2. Origin (from source).
3. Destination (to load).

J. Identify each individual conduit at each end of the conduit run, including all spare conduits. This includes at such locations as switchgear, switchboards, motor control centers, panelboards, variable speed drives, manholes, and pull boxes. Conduits shall have lamacoid name plate with stainless steel wire attachment to the conduit. Nam plate shall have the circuit number for each circuit run in the conduit. Provide multiple name plates on conduits with a large number of circuits within them. Review with Engineer prior to install.

END OF SECTION

SECTION 16123

600 VOLT OR LESS WIRES AND CABLES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. 600 Volt Class wire and cable.
   2. Instrumentation Class wire and cable.
   3. Fire Alarm wire and cable.
   4. Communication wire and cable.

B. Related Sections:
   1. Refer to Section 16010.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. B3 - Standard Specification for Soft or Annealed Copper Wire.
   2. B8 - Specification for Concentric-LayBStranded Copper Conductors, Hard, Medium-Hard, or Soft.

B. Insulated Cable Engineers Association (ICEA).

C. National Electrical Code (NEC):
   1. Article 250 - Grounding.
   2. Article 310 - Conductors for General Wiring.
   3. Article 760 - Fire Alarm Systems.

1.03 SUBMITTALS

A. Refer to Section 16050.

B. Shop Drawings: Show splice locations.

C. Product Data: Include wires, cables, pulling compounds, and splicing materials.

1.04 QUALITY ASSURANCE

A. Refer to Section 16010.

B. All wires and cables shall be UL listed and labeled.

1.05 WARRANTY

A. Provide minimum 12 month warranty form date of final acceptance by the OWNER.

PART 2 PRODUCTS

2.01 WIRE AND CABLE MATERIALS

A. Conductors: ASTM B8, soft drawn copper, maximum 12 months old, minimum 97 percent conductivity; American Wire Gauge (AWG) sizes as indicated on the Drawings, Class B or C stranded.

B. Insulation Thickness: Minimum specified by Article 310 of the National Electrical Code.

2.02 600-VOLT CLASS CABLE

A. Power Wire and Cable:
   1. Manufacturers: One of the following or equal:
      a. Okonite Company.
      b. BICC Cable.
      c. Southwire Company.
      d. General Cable Corporation.

B. Control Wire and Cable:
   1. Manufacturers: One of the following or equal:
      a. Okonite Company.
      b. BICC Cable.
      c. Southwire Company.
      d. General Cable Corporation.

C. Insulation for Individual Wires or Multiple Conductor Cable for Power and Control Circuits: Type THWN insulation as defined by NEC Table 310-13.

D. Jackets for Multiple Conductor Cable for Power and Control Circuits: Type PVC.

E. Multi-Conductor Cable Insulated Grounding Conductors:
   1. Color: Integral green.
   2. Size: In accordance with 250-122 of the National Electrical Code.

F. Solid-conductor wire, Number 10 AWG and smaller, may be used for lighting and receptacle circuits.

2.03 INSTRUMENTATION CLASS CABLE

A. Single Pair or Triad Applications:
   1. Manufacturers: One of the following or equal:
      a. The Okonite Company, Okoseal-N Type P-OS.
      b. Equivalent manufactured by Cooper Industries, Belden Wire and Cable Division.

B. Multiple Pair or Triad Applications:
   1. Manufacturers: One of the following or equal:
      a. The Okonite Company, Okoseal-N Type SP-OS.
      b. Equivalent manufactured by Cooper Industries, Belden Wire and Cable Division.

C. Approved for cable tray installation in accordance with the National Electrical Code.

D. Number of Individually Shielded, Twisted Pairs and Triads: As indicated on the Drawings.

E. Voltage Rating: 600 volts.

F. Cable Type: TC.

G. Temperature Rating: 90 degrees Celsius dry location, 75 degrees Celsius wet location.

H. Conductors: Bare, soft annealed copper in accordance with ASTM B3, Class B, 7-strand concentric in accordance with ASTM B8.

I. Conductor Insulation: Flame-retardant polyvinyl chloride, 15 mils nominal thickness, with nylon jacket 4 mils nominal thickness, 90 degrees Celsius temperature rating in accordance with Underwriter's Laboratory Subject 1277.

J. Color Code: Provide conductor color code as specified in Section 16075.

K. Single Pair or Triad Shielding:
   1. Group Shielding: Minimum 1.35 mil double-faced aluminum/synthetic polymer-backed tape overlapped to provide 100 percent coverage.
   2. Drain Wire: 7-strand tinned copper drain wire, 2 sizes smaller than conductor.

L. Multiple Pair or Triad Shielding:
   1. Group Shield: 1.35 mil aluminum-polyester tape overlapped to provide 100 percent coverage and a 7-strand tinned copper drain wire, 2 sizes smaller than conductor. Completely isolate group shields from each other.
   2. Cable Shield: 2.35 mils double-faced aluminum and synthetic polymer backed tape overlapped to provide 100 percent coverage and a 7-strand tinned copper drain wire, same size as conductors.

M. Jacket: Black, flame-retardant per Underwriter's Laboratory Subject 1277, 90 degrees Celsius temperature rating, rip cord laid longitudinally under jacket to facilitate removal.

N. Conductor Size: Number 16 AWG minimum unless otherwise indicated on the Drawings.

O. Numerically identify every conductor within each pair and triad.

2.04 NETWORK CABLE

A. Provide Cat-6a STP Shielded Twisted Pair, 4 pair network cable.

2.05 ALL WEATHER INSTRUMENT CABLE

A. Instrument cable between manufacturer sensors and instrument analyzers run without conduit.

B. Manufacturers: One of the following or equal:
   1. The Draka Marine Oil Gas international: BOSTRIG Type P signal cable 600V.

C. Characteristics:
   1. 4 pair 18 gauge wires.
   2. Suitable in Class 1 Division 1 locations.

3. Soft annealed stranded tin copper conductors.
4. Insulation: Bostrig Type P chemically cross-linked polyolefin (XPLO) meeting IEEE 1560 (2001).
5. Shield: Aluminum/polyester tape with drain wire, 100% coverage, applied over each twisted pair and the cable core.
6. Jacket: Flame retardant Arctic Neoprene, complying with Type N Neoprene as required per IEEE-1580 (2001).
7. Armor: Braided bonze in accordance with IEEE 1580 (2001).
8. Sheath: Flame Retardant Arctic Neoprene applied over the armor.
9. Super resistant to oil, abrasion, moisture, mud, crush, and impact.
10. Meets IEEE standards for 600 V/IEC standards for 0.6/1kW.
11. UL listed.

2.06 RELATED MATERIALS

A. Splicing Material: In conformance with ANSI C119.1, IEEE 383, and ICEA 5-19-81;
   1. Manufacturers: One of the following or equal:
      a. Elastimold.
      b. Thomas-Betts.
      c. Raychem, FCSM Series.

B. Wire Nuts: Rated 600 volt with live-spring feature for tight fitting connections.
   1. Manufacturers: One of the following or equal:
      a. 3M.
      b. Thomas and Betts.

C. Junction Boxes and Terminal Cabinets: As specified in Section 16134.

D. Pulling Compound: As recommended by conductor manufacturer.

2.07 WIRE AND CABLE FABRICATION

A. Permanently mark American Wire Gauge (AWG) size, grade of insulation, voltage, and manufacturer's name on outer covering at maximum 24 inch intervals.

B. Identify and mark conductors in accordance with NEC Article 310.

C. Color code wire and cable as specified in Section 16075.
   1. Integrally color insulation for Number 2 AWG and smaller.
   2. Wrap colored tape around cable larger than Number 2 AWG.

D. Fabricate cable ends with provisions for field testing.

2.08 SOURCE QUALITY CONTROL

A. Test full lengths in accordance with ASTM and ICEA Standards.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install continuous circuit conductors from source to load without splices or terminations in intermediate manholes or pull boxes, except for Number 10 AWG and smaller conductors for lighting and receptacles.

B. Splices:
   1. Where splices are necessary because of extremely long wire or cable lengths that exceed standard manufactured lengths, install and label junction boxes for power conductors or termination cabinets for control and instrument conductors.
   2. Power and control conductors routed in common raceways may be spliced in common junction boxes. Install NEMA 4X junction and terminal boxes in wet and outdoor locations. Clearly label junction and terminal boxes containing splices with the word "SPLICE." Leave sufficient slack at junction boxes and termination boxes to make proper splices and connections. Do not pull splices into conduits.

C. Properly coat wires and cables with pulling compound before pulling into conduits and prevent mechanical damage to conductors during installation.

3.02 600-VOLT CLASS CABLE

A. Size power conductors in accordance with National Electrical Code when sizes are not indicated on the Drawings.

B. Install minimum Number 12 AWG wiring for wire external to panels and motor control centers unless otherwise specified or indicated on the Drawings, and minimum Number 14 AWG for internal panel control wiring with Type MTW or SIS insulation, unless otherwise specified.

C. Do not exceed cable manufacturer's pulling tension and side-wall pressures.

D. Terminations and Splices (600 Volt or Less):
   1. Terminations: Terminate control and instrument conductors in terminal boxes in accordance with Section 16134.
   2. Splicing: Join conductors mechanically with splice connectors and install heat-shrink type insulation. Splice conductors in accordance with manufacturer's instructions. Make waterproof heat shrink type splices in wet and below grade locations.
   3. Splice or weld grounding conductors of different sizes.
   4. Conductor Number 10 AWG and smaller for lighting and receptacle circuits may be spliced in junction boxes with wire nuts.

3.03 INSTRUMENTATION CLASS CABLE

A. Install instrumentation class cables in separate raceway systems. Install instrument cable in metallic conduit within non-dedicated manholes or pull boxes. Install cable without splices between instruments or between field devices and instrument enclosures or panels.

B. Do not make intermediate terminations, except in designated terminal boxes indicated on the Drawings.

C. Ground cable shields at only one location, typically at panels, not at field instruments.

3.04 SIGNAL CABLE AND CONDUIT INSTALLATION

A. Separate and isolate electrical signal cables from sources of electrical noise and power cables by minimum 12 inches.

3.05 FIELD QUALITY CONTROL

A. Testing: perform functional testing of all electrical systems, and per NETA standards.

END OF SECTION

SECTION 16133

CONDUITS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Galvanized rigid steel conduit,
   2. Flexible conduit,
   3. Polyvinyl chloride-coated rigid steel conduit, and rigid nonmetallic polyvinyl chloride conduit.
   4. Rigid non-metallic (PVC)

B. Related Sections:
   1. Refer to Section 16010.

1.02 REFERENCES

A. American National Standards Institute (ANSI):
   1. C80.1 - Rigid Steel Conduit, Zinc Coated.
   2. C80.3 - Electrical Metallic Tubing, Zinc Coated.
   3. C80.5 - Rigid Aluminum Conduit.

B. National Electrical Code (NEC):
   1. Article 348 - Electrical Metallic Tubing.
   2. Table 300-5 - Minimum Cover Requirements (0 to 600 volts, Nominal).
   3. Article 500 - Hazardous (Classified) Locations.
   4. Table 300-50 - Minimum Cover Requirements (over 600 volts, Nominal).

C. National Electrical Manufacturers Association (NEMA):
   1. RN-1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
   2. TC-2 Electrical Plastic Tubing and Conduit
   3. TC-3 PVC Fittings for use with rigid PVC conduit and fittings
   4. TC-13 Electrical non-metallic tubing

D. Underwriters Laboratories, Inc (UL):
   1. UL 6 - Rigid Metal Conduit.
   2. UL 651 – Schedule 40 and 80 rigid PVC conduit
   3. UL 1 – Flexible metal conduit

1.03 SUBMITTALS

A. Refer to Sections 01330 and 16010.

B. Shop Drawings: Installation drawing including individual conduit numbers, routing, conduit sizes, circuit numbers contained in each conduit, and number and size of wires in each conduit.

C. Manufacturer's Quality Control Data: Include how products are inspected at work stations, defining quality process from receipt of raw material through shipping.

D. Record Documents: Incorporate all changes in conduit routing on Conduit Drawings.

1.04 QUALITY ASSURANCE

A. Refer to Section 16010.

PART 2 PRODUCTS

2.01 CONDUIT

A. Galvanized Rigid Steel Conduit (GRC):
   1. Domestic raw steel, made smooth, clean, and free of burrs and rough spots to enhance wire pulling; interior and exterior surfaces coated with solid, unbroken layer of zinc; threads hot dip galvanized after cutting; entire surface finish coated with secondary bichromate treatment applied over galvanizing able to extend surface protection and prevent oxidation; threads protected by color coded end caps to provide quick trade size identification.
   2. Manufacturers: One of the following or equal:
      a. LTV Steel Tubular Products Company, Galvite.
      b. Triangle PWC, Inc.
      c. Allied Tube and Conduit Corporation.
      d. Western Tube and Conduit.

B. Liquid-tight Flexible Conduit: Grounding type, weatherproof, watertight, maximum 60 inch lengths.
   1. Manufacturers: One of the following or equal:
      a. AFC Cable Systems.
      b. Electriflex.
      c. Anaconda.

C. Polyvinyl Chloride-coated Rigid Steel Conduit:
   1. Galvanized rigid steel conduit with coating conforming to ANSI C80.1 and UL 6; bendable without damage to coatings.
   2. Manufacturers: One of the following or equal:
      a. Robroy Industries.
      b. OCAL, Inc.
      c. Triangle Conduit and Cable.

D. Rigid Nonmetallic Polyvinyl Chloride Conduit:
   1. High density, Schedule 40, 90 degrees Celsius, heavy-duty polyvinyl chloride, made from virgin polyvinyl chloride compound; maximum 6 grams per 100 grams smoke emission.
   2. Manufacturers: One of the following or equal:
      a. Carlon.
      b. Triangle Conduit and Cable.

2.02 RELATED MATERIALS

A. Couplings, Connectors, and Fittings:
   1. Threaded.
   2. Manufactured with same materials and process as corresponding conduit.

B. Condulet Fittings:

1. With wedge nut covers, weathertight when located outdoors or in wet or corrosive locations [indicated on the Drawings], matching type for corresponding conduit systems.
2. Manufacturers: One of the following or equal:
   a. Crouse-Hinds.
   b. Appleton.

C. Galvanized Rigid Steel Conduit Expansion Fittings for Exposed Locations:
1. Manufacturers: One of the following or equal:
   a. OZ/Gedney, Type AX with jumper.
   b. Appleton, Type XJ with Jumper.

D. Galvanized Rigid Steel Conduit Expansion Fittings at Structural Expansion Joints:
1. Manufacturers: One of the following or equal:
   a. Spring City, Type D.
   b. Crouse-Hinds, Type D.

E. Conduit Seals:
1. Manufacturers: One of the following or equal:
   a. Appleton.
   b. Crouse-Hinds.

F. Polyvinyl Chloride-coated Rigid Steel Conduit Couplings: One provided loose with each length of conduit.

G. Fasteners for Polyvinyl Chloride-Coated Rigid Steel Conduit: Polyvinyl chloride-coated steel fasteners with Type 316 stainless steel bolts, nuts, and hardware.

H. Fasteners for Galvanized Rigid Steel Conduit: 316 stainless steel fasteners with Type 316 stainless steel bolts, nuts, and hardware.

I. Conduit Mounting Strut:
1. Type 316 stainless steel.

J. Conduit Thruwall Seals:
1. 316 Stainless Steel.
2. Polyvinyl chloride oversize sleeve.
3. Manufacturers: One of the following or equal:
   a. O-Z/Gedney.

2.03 POLYVINYL CHLORIDE-COATED RIGID STEEL CONDUIT FABRICATION

A. Coat rigid steel conduit, conduit fittings, and hangers with polyvinyl chloride.

B. Conduit:
1. Ensure that surfaces, including galvanizing, remain intact and undisturbed on both inside and outside of conduit throughout preparation and application processing.
2. Bond polyvinyl chloride coating to outer surfaces of conduit except threads.
3. Provide bond between polyvinyl chloride coating and conduit surface that is greater than tensile strength of plastic.
4. Provide minimum 40 mil thick coating on conduit.
5. Coat interior of conduit and condulet fittings with nominal 2 mil thick corrosion-resistant urethane finish.

6. Coat threads with clear urethane finish.

C. Couplings:
   1. Bond polyvinyl chloride coating to outer surfaces of couplings.
   2. Extend polyvinyl chloride sleeve equal to outside diameter of uncoated conduit beyond both ends of coupling approximately 1 pipe diameter or 1-1/2 inches, whichever is smaller.
   3. Provide minimum 40 mil thick coatings on couplings and sleeves.
   4. Bond polyvinyl chloride coating to outer surface of conduit bodies and fittings.
   5. Extend polyvinyl chloride sleeves from hubs.
   6. Provide same coating thickness on conduit bodies, fittings, and sleeve walls as on couplings in length and thickness.
   7. Coat covers on conduit bodies on both sides so covers are completely interchangeable.
   8. Coat interior of conduit couplings, sleeves, and conduit bodies with corrosion-resistant urethane finish.

D. Ensure that inside of conduit bodies remain undisturbed during processing and retain manufacturer's finish.

E. Polyvinyl Chloride Coated, Mounting Hardware, and Associated Fittings:
   1. All mounting hardware and associated fittings shall be polyvinyl chloride coated in accordance with NEMA RN-1.
   2. The polyvinyl chloride exterior coating shall have a normal thickness of 40 mils (.040 inch) except where part configuration or application otherwise dictate.
   3. All fasteners for polyvinyl chloride coated fittings and mounting hardware shall be of the type 316 stainless steel.

2.04 SOURCE QUALITY CONTROL

A. Test and inspect rigid, hot-dip galvanized steel conduit during manufacture for conformance to UL 6 and ANSI C80.1.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install conduit runs in accordance with schematic representation indicated on the Drawings and as specified. Modify conduit runs to suit field conditions, as accepted by the ENGINEER.

B. Install straight and true conduit runs with uniform and symmetrical elbows, offsets, and bends. Make changes in direction with long radius bends or with condulet fittings.

C. Install conduit runs so that runs do not interfere with proper and safe operation of equipment and not block or interfere with ingress or egress, including equipment removal hatches.

D. Expose conduit runs in buildings and structures, unless otherwise indicated on the Drawings.

E. Securely fasten exposed conduits with clamps or straps. Run exposed conduit on walls and ceilings only, parallel to planes of walls or ceilings. Do not run conduit diagonally. Securely fasten exposed polyvinyl chloride-coated rigid steel conduits with Type 316

stainless steel clamps or straps.

F. Use flexible conduit for short lengths required to facilitate connections between rigid conduit and motors, vibrating equipment, or control equipment.

G. Support conduit runs on water-bearing walls 1 inch away from wall on an accepted channel. Use hot-dip galvanized steel or stainless steel channels, consistent with type of conduit being installed. Do not run conduit in water-bearing walls unless otherwise indicated on the Drawings.

H. Thoroughly ream conduit after threads have been cut to remove burrs. Seal joints with accepted conductive sealant compound and make watertight. Set up joints tight. Use bushings or conduit fittings at conduit terminations.

I. Install runs between pull boxes or junction boxes with total bends equaling not more than 270 degrees. Install conduits as necessary to limit bends to not more than 270 degrees. Install NEC required pull boxes at locations acceptable to the ENGINEER. Plug conduits brought into pull boxes, manholes, handholes, and other openings until used to prevent entrance of moisture. Cap spare conduits and provide plastic pulling tape below threaded cap. Provide bonding bushing and bond wire.

J. Provide appropriate hangers and fasteners to suit applications.

K. After complete installation of 2 inch and larger conduit runs, snake conduits with conduit cleaner equipped with a cylindrical mandrel of a diameter not less than 85 percent of nominal diameter of conduit. Remove and replace conduits through which mandrel will not pass.

L. Clean and ensure that new and existing conduit runs are not crushed or creased. Verify internal dimensions of existing conduit prior to installation of conductors. Verify that no foreign objects or obstructions are present in conduit prior to installing conductors.

M. Install conduit system to provide firm mechanical assemblies with electrical conductivity throughout.

N. Install expansion fittings across expansion joints, including expansion joints at existing structures, and at other locations where necessary to compensate for thermal or mechanical expansion and contraction as indicated on the Drawings.

O. Install conduits complete between outlets, boxes, and circuit source before conductors are installed.

P. Install conduit thruwall seals where indicated on the Drawings.

Q. Conduit transition from underground PVC to above ground rigid or PVC coated rigid conduit shall occur underground with the sweep for the vertical portion of the conduit being rigid (PVC coated rigid conduit as scheduled) and all vertical portions of the conduit being rigid (PVC coated rigid conduit as scheduled).

3.02 POLYVINYL CHLORIDE-COATED RIGID STEEL

A. Attach cover to conduit body with Type 316 stainless steel screws.

B. Where patching is required, apply 40 mil thick polyvinyl chloride coating in accordance with manufacturer's instructions.

C. Install and patch coated material holiday free and according to manufacturer’s recommended installation and patching instructions.

3.03 RIGID NONMETALLIC POLYVINYL CHLORIDE

A. Reinforce encasement as indicated on the Drawings. Install conduit supports at 30-inch intervals.

3.04 CONDUIT SEALS

A. Install conduit entering or leaving NEC Article 500 hazardous areas with conduit seals.

B. Install conduit seals in other hazardous locations as required by NEC.

C. Provide drains on conduit seals in locations where water accumulation is likely to enter a device or enclosure.

3.05 SCHEDULES

A. Conduit Sizes: Unless otherwise indicated on the Drawings, conduits shall be in accordance with NEC, and the minimum specified as follows:

B. Conduit Uses and Applications:
   1. Galvanized Rigid Steel Conduit (GRC) :
      a. For exposed indoor locations only where specifically indicated on the Drawings as non-PVC coated rigid.
      b. Minimum Size:
         1) As indicated in the Cable and Conduit Schedule.
         2) Minimum ¾ inch where not indicated on the Drawings.
         3) Minimum 1 inch when encased in Concrete
   2. Flexible Conduit:
      a. Use flexible conduit for final connections between rigid conduit and motors, vibrating equipment, instruments, control equipment or where required for special servicing.
         1) Use type SLT with rigid metallic conduit.
         2) Use type NFC with PVC conduit.
      b. Minimum size ¾ inch.
         1) One half inch when required for connections to instruments.
      c. Maximum length: 36 inches
      d. Use explosion proof pvc coated flexible conduit to connect to equipment in NEMA 7 classified areas
   3. PVC Coated Rigid Metallic Conduit:
      a. All exposed outdoor locations, all process areas and buildings, all pump stations, all chemical areas, all UV areas, all indoor locations except where called otherwise on the drawings, and areas designated as NEMA 4X, and where indicated on the Drawings.
      b. Minimum Size:
         1) As indicated in the Cable and Conduit Schedule.
         2) Minimum ¾ inch where not indicated on the Drawings.
         3) Minimum 1 inch when encased in Concrete.

4. PVC Schedule 40:
    a. Underground and Embedded locations.
    b. Minimum size:
        1) Two inch in duct banks unless otherwise indicated.
        2) One inch for in-slab conduits unless otherwise indicated.
        3) Transition to rigid metal per Section 3.01.Q.

END OF SECTION

SECTION 16133B

DUCT BANKS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes Requirements for:
   1. Electrical underground duct banks.
   2. Duct spacing and terminations.
   3. Excavation and Patching.
   4. Coordination with other underground utilities.

B. Related Sections:
   1. Refer to Section 16010.

1.02 REFERENCES

A. Refer to Section 16010.

1.03 DEFINITIONS

A. Refer to Section 16010.

1.04 SYSTEM DESCRIPTION

A. Provide trenching, backfill, compaction necessary for the complete installation of the duct banks.

B. Provide sand duct banks for all conduits installed below grade, on the site, below structures, or in contact with the earth, unless otherwise indicated on the Drawings.

1.05 SUBMITTALS

A. Furnish submittals in accordance with Sections 01330 and 16010.

B. Product Data:
   1. PVC conduit spacers.
   2. Detectable underground marking tape.

C. Provide Applicable Submittal Documents as Required in:
   1. Section 02318.

1.06 QUALITY ASSURANCE

A. Refer to Section 16010.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Refer to Section 16010.

1.08 PROJECT OR SITE CONDITIONS

A. Refer to Section 16010.

1.09 WARRANTY

A. Refer to Section 16010.

1.10 SYSTEM STARTUP

A. Refer to Sections 01756 and 16010.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Conduit Spacers:
   1. One of the Following or Equal:
      a. Carlon Snap-Loc.
      b. Cantex.
      c. Osburn Associates, Inc.

B. Detectable Underground Marking Tape:
   1. One of the following or equal:
      a. Blackburn manufacturing Company.
      b. Brady – Identoline.
      c. Thomas and Betts – Protect-A-Line.
      d. Panduit – Underground Hazard Tape.

C. Pull Line:
   1. One of the Following or Equal:
      a. Arnco.
      b. Greenlee.
      c. Osburn Associates, Inc.

2.02 MATERIALS

A. For Conduit Requirements, Reference Section 16133.
   1. Use duct suitable for use with 90 degree Celsius rated conductors.

2.03 MANUFACTURERED UNITS

A. Conduit Spacers:
   1. Provide conduit spacers recommended by the conduit manufacturer or listed above.
   2. Saddle type.
   3. Non-metallic, non-corrosive, non-conductive.
   4. Interlocking Type:
      a. Vertical interlocking.
      b. Horizontal interlocking.
   5. Suitable for concrete encasement.
   6. Molded-in rebar holder.
   7. Accommodates 2 inch through 6 inch conduit sizes.
   8. Relieves the conduit from both horizontal and vertical stresses.

B. Pull Line:
   1. Minimum ¼ inch wide, flat design.
   2. Polyester.
   3. Minimum pulling strength 1200 pounds.

C. Detectable Marking Tape:
   1. Provide a detectable tape, locatable by a cable or metal detector from above the undisturbed grade.
   2. Aluminum core laminated between polyester.
   3. Six inch wide Red tape imprinted with black lettering “CAUTION – BURIED ELECTRIC UTILITIES.”

PART 3 EXECUTION

3.01 INSTALLATION

D. Refer to Section 16010.

E. Duct Banks:
   1. Install duct banks encased in sand at least 36 inches below finish grade, unless otherwise indicated on the Drawings.
   2. Damage Minimization:
      a. Conduit should not be left exposed in an open trench longer than is necessary.
      b. Protect all underground duct banks against damage during pouring of concrete or backfilling.
   3. All plastic conduit fittings to be joined should be exposed to the same temperature conditions for a reasonable length of time before assembly.
   4. Install Watertight Underground Ducts:
      a. Slope duct banks away from buildings to pull-boxes or manholes.
      b. Slope duct banks uniformly from pull-boxes or both ways from high points between pull-boxes.
      c. Slope a minimum of ½ inch per 10 feet.
   5. Where new duct banks join to existing pull boxes or manholes make the proper fittings and fabricate the concrete envelopes to ensure smooth durable transitions, as indicated on the Drawings.
   6. Install Pull Line in Spare Conduits:
      a. Provide adequate pull line at both ends of conduits to facilitate conductor pulling.
      b. Cap above ground spare conduit risers at each end with screw-on conduit caps.

F. Trenching:
   1. Refer to Section 02318 for complete trenching requirements.
   2. Trench must be uniformly graded with the bottom, rock free and covered with select material.
   3. Whenever possible, use the walls of the trench as forms for concrete encasement:
      a. Forms are required where the soil is not self-supporting.
   4. Avoid damaging existing ducts, conduits, cables, and other utilities.

G. Duct Spacing:
   1. Separate conduits with manufactured plastic spacers using a minimum space

between the outside surfaces of adjacent conduits of 1.5 inches:
   a. Separate medium voltage ducts a minimum of 7.5 inches on center.
2. Install spacers to maintain uniform spacing of duct assembly a minimum of 4 inches above the bottom of the trench during concrete pour. Install spacers on 8 foot maximum intervals:
   a. Due to some distortion of conduit from heat, and other means, it may be necessary to install extra spacers with the duct bank:
      1. Install the intermediate set of spacers within normal required spacing to maintain the proper horizontal clearance:
         a) Clearance is required to allow the proper amount of concrete to infiltrate vertically among the duct to ensure proper protection.
3. Spacers should Not be Located at the Center of a Bend:
   a. Locate spacer in the tangent, free of the coupling on fabricated bends.
   b. Locate spacers midway between the tangent and the center bend on trench formed sweeps.

H. Terminating:
   1. Use bell ends in duct at entrances into cable manholes.
   2. Make conduit entrances into cable manhole tangential to walls of cable manholes.
   3. Form trapezoidal transitions between duct bank and cable manholes as needed in order to ensure adequate cable bending radius for the duct bank-to-manholes transition.

I. Marking Tape:
   1. Install a detectable marking tape 12 inches above the duct bank the entire length of the duct bank.

J. For Conduit Installations Beneath Building Slabs:
   1. Install steel reinforced concrete duct banks under all building slabs as indicated on the Drawings:
      a. Controlled Low Strength Material (CSLM) Backfill only.

K. Restore all surfaces to their original condition per Section 02952, unless otherwise specified.

3.02 CLEANING

A. Clean conduits of dirt and debris by use of an appropriately sized steel mandrel no less than ½-inch smaller than the inside diameter of the conduit.

3.03 PROTECTION

A. Refer to Section 16010

B. Provide shoring and pumping to protect the excavation and safety of workers.

C. Protect excavations with barricades as required by applicable safety regulations.

END OF SECTION

SECTION 16134

BOXES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Outlet boxes, device boxes, metallic pull boxes, junction boxes, termination boxes.
   2. Raceway System boxes.

B. Related Sections:
   1. Refer to Section 16010.

1.02 REFERENCES

A. American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA):
   1. OS1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers and Box Supports.
   2. OS2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports.

B. National Electrical Code (NEC).
   1. Article 314 - Outlet, Device, Pull and Junction Boxes, Conduit Bodies and Fittings.

C. National Electrical Manufacturers Association (NEMA):
   1. NEMA FB1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
   2. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

D. Underwriters Laboratory:
   1. UL Standard 498 and 514.

1.03 SUBMITTALS

A. Refer to Section 01330 and 16050.

B. Shop Drawings: Include exact locations and sizes of pull boxes for ENGINEER's acceptance prior to fabrication and installation.

1.04 QUALITY ASSURANCE

A. Refer to Section 16010.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Device Boxes, Metallic Pull Boxes and Junction Boxes: One of the following or equal:
   1. Crouse-Hinds.
   2. Appleton.
   3. Hofmann
   4. Saginaw

B. All metal pull boxes shall be stainless steel with hinges and gasket.

2.02 DEVICE BOXES AND JUNCTION BOXES

A. NEMA 4X 316 Stainless Steel, hinged door with stainless steel door fasteners. compatible with the location and conduit system being used, unless otherwise specified or indicated on the Drawings.

2.03 CONCRETE PULL BOXES ADN MANHOLES

A. Precast concrete pull boxes in locations indicated on the Drawings and as required by NEC.

B. Designed for H20 traffic conditions, with pull box and cover designed for loads consistent with ASTM C1802, Load Level 5 Minimum.

C. Identification: Furnish covers with “Electrical” or “Instrumentation” and box number engraved on top side.

D. Provide wire labels on all wire in manholes and pull boxes.

E. Provide sump location in bottom of box to allow a pump to be installed to pump water out of the box.

F. Provide adjustable cover or grade ring to allow coordination with final Grade.

G. Where installed in paving, the top of the manhole shall be 2” above finish grade. Slope pavement away at 3% grade. See Drawings for grading details.

2.04 FASTENERS

A. Electroplated or stainless steel in boxes with wiring devices.

B. Screws, Nuts, Bolts, and Other Threaded Fasteners: Stainless Steel.

PART 3 EXECUTION

3.01 INSTALLATION

A. General: Comply with the National Electrical Code.

B. Terminal blocks installed in junction/terminal boxes as specified in Section 16050.

C. Provide weatherproof conduit hubs for all conduit connections to pull boxes.

D. Size pull boxes to meet National Electrical Code requirements and to provide sufficient room for the future conduits and cables indicated on the Drawings.

E. Furnish and install pull boxes as indicated on the Drawings and as specified. Install additional pull boxes as required to meet cable manufacturer's pulling tension requirements.

F. Install pull boxes such that access to them is not restricted by obstructions such as pipes, valves, ladders.

G. Secure pull box covers with type 316 stainless steel screws or bolts with coated threads.

H. Install concrete pull boxes on 12-inches compacted clean aggregate base course as specified in Section 02722.

I. Install Cable support channels on sides of pull boxes and coil and hang cable in a neat manner inside all pull boxes. Wire laying on the floor of the box or cables stretched tight through a box will not be accepted.

J. Concrete pull boxes shall have pull box number and service engraved onto the lid. Provide all other pull boxes with lamecoid nameplate with pull box number and service on each pull box with engraved text.

3.02 ADJUSTMENT

A. Adjust equipment as required.

END OF SECTION

SECTION 16135

CABINETS AND ENCLOSURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Cabinets and enclosures to house electrical controls, instruments, terminal blocks, and similar equipment.

B. Related Section:
   1. Refer to Section 16050.

1.02 REFERENCES

A. National Electrical Code (NEC).

B. National Electrical Manufacturers' Association (NEMA).

1.03 SYSTEM DESCRIPTION

A. Design Requirements:
   1. Unless otherwise specified herein or indicated on the Drawings, enclosures to house electrical controls, instruments, terminal blocks, and similar equipment shall be NEMA 12 for indoor and NEMA 4X for outdoor installations and shall be compatible with the conduit system being used.
   2. Specific control panel enclosures shall be as specified in DIVISION 13 and 16 of these Specifications or as indicated on the Drawings.

1.04 SUBMITTALS

A. Furnish Submittal in accordance with Section 01330 and 16010.

1.05 WARRANTY

A. Provide 12 month warranty from data of acceptance by the Owner.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Indoors: NEMA 12 Steel Enclosures: One of the following or equal:
   1. Hoffman Engineering Company.
   2. Ritta.

B. Outdoors: NEMA 4X Stainless Steel Enclosures: One of the following or equal:
   1. Hoffman Engineering Company.
   2. Carlon.

2.02 CONSTRUCTION

A. All Enclosures:

1. Make enclosures from 14 gauge steel with continuous welded seams. Doors shall have full length piano hinges with the door removable by pulling the hinge pin.
2. Provide a rolled lip around 3 sides of the door and around all sides of the enclosure opening.
3. Provide hasp and staple for padlocking.
4. Provide a print pocket for each enclosure.
5. Panels with PLCs shall have an outer and inner door. Outer door shall be plane. Inner door shall have all devices mounted on it.
6. All outdoor panels with a PLC or other temperature sensitive devices shall have an air conditioner included with the panel for proper temperature control.
7. Provide Lamicoid name plate with stainless steel screws. Glued on name plates are not accepted.

B. NEMA 12 Steel Enclosures
1. Attach gasket with oil-resistant adhesive and hold it in place with steel retaining strips.

C. NEMA 4X, 316 Stainless Steel Enclosures:
1. Provide minimum 14 gauge 316 Stainless Steel Enclosure with 316 Stainless Steel Hardware.
2. Provide enclosures that consist of a base and cover with cover hinges to forma a weather tight seal between the cabinet and the doors.
3. Provide the enclosures with gasket system of neoprene material cemented into a molded labyrinth on the cover.

D. NEMA 4X, FRP Enclosures:
1. Provide enclosures that consist of base and cover which shall be heavy-duty hot compression molded from fiberglass reinforced polyester compound containing not less than 25 percent fiberglass by weight. Transparent covers, where specified or indicated on the Drawings, shall be polycarbonate. The enclosures shall be provided with cover hinges manufactured from nonmetallic materials. The cover latch system shall be nonmetallic.
2. Provide the enclosures with gasket system of neoprene material cemented into a molded labyrinth on the cover.
3. 316 Stainless Steel Hardware
4. Provide the enclosures with gasket system of neoprene material cemented into a molded labyrinth on the cover.

2.03 FINISHES

A. Steel Enclosures:
1. Do not paint NEMA 4X enclosures. Door fronts shall be ground smooth. Print pockets and interior panels shall be steel with a white enamel finish.
2. Provide NEMA 12 and NEMA 4 enclosures with white enamel interior finish. The finish shall be light grey enamel, ANSI 61 exterior, over phosphatized surfaces. Panels shall be white enamel. Special finishes and colors shall be furnished for wet locations. Other portions of these Contract Documents shall be checked for special conditions.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install Cabinets and Enclosures per manufacturer’s instructions.

END OF SECTION

SECTION 16140

WIRING DEVICES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Wiring devices including the following:
   1. Snap switches and toggle switches.
   2. Plugs and receptacles.
   3. Control and pushbutton stations.
   4. Pilot devices.

B. Related Sections:
   1. Refer to Section 16010.

1.02 SUBMITTALS

A. Refer to Sections 01330 and 16050.

1.03 QUALITY ASSURANCE

A. Provide industrial grade products for wiring devices. Commercial grade products are not acceptable, unless otherwise specified or indicated on the Drawings.

1.04 WARRANTY

A. Submit manufacturer's standard warranty.

PART 2 PRODUCTS

2.01 SNAP OR TOGGLE SWITCHES

A. Manufacturers: One of the following or equal:
   1. Hubbell.
   2. General Electric.
   3. Leviton.
   4. Bryant.

B. Number of Poles: As indicated on the Drawings.

C. Rating: 20 amperes, 125 volt.

D. Special Switches and Covers: As specified or indicated on the Drawings.

2.02 120 VOLT RECEPTACLES

A. Manufacturers: One of the following or equal:
   1. Hubbell.
   2. General Electric.
   3. Leviton.

4. Bryant.

B. Duplex Receptacles: 2-pole, 3-wire, grounded, 125 volts, industrial, rated at 20 amperes.
   1. Special Receptacles and Covers: As specified in Section 16134 or as indicated on the Drawings.
   2. Outdoor receptacles shall have cover and be weather rated for “In Use” service.

C. Ground Fault Interrupter Receptacles (GFI): Rated at 20 amperes at 125 volts alternating current.

2.03 LOCAL PUSHBUTTON MOTOR CONTROL STATIONS

A. Manufacturers: One of the following or equal:
   1. Furnas Electric Company.
   2. Square D Company.
   3. Allen Bradley.
   4. Siemens.
   5. Cutler Hammer.
   6. General Electric.

B. Types: Heavy duty, oil-tight/water-tight.

C. Components: Selector Switches, pilot light, and pushbuttons.

D. Enclosures: As follows, unless otherwise indicated on the Drawings or specified:
   1. For Nonhazardous Indoor Locations: NEMA 12.
   2. For Hazardous Indoor Locations: NEMA 7.
   3. For Outdoor Locations: NEMA 4X.
   4. For Hazardous Outdoor Locations: NEMA 7.

E. Field Located Maintained Pushbuttons: Red mushroom head, push-to-stop, pull-to-reset, with maintained contacts.

2.04 PILOT DEVICES

A. Manufacturers: One of the following or equal:
   1. Furnas Electric Company.
   2. Square D Company.
   3. Allen Bradley.
   4. Siemens.
   5. Cutler Hammer.
   6. General Electric.

B. Type: Heavy-duty, suitable for mounting in control stations, on switchgear, switchboards, variable frequency drives, motor control centers, control panels, and other electrical equipment.

C. Components: Oil-tight/water-tight pushbuttons, selector switches, pilot light, and incidental items.

D. Casting: Durable 1 piece with chrome plated octagonal mounting nuts.

E. Pushbuttons: Heavy duty plastic.

F. Pilot Light Lenses: Shatter resistant plastic, push-to-test.

2.05 CORD CONNECTOR GRIPS

A. Non-hazardous Areas:
   1. Manufacturers: One of the following or equal:
      Killark, Series Z.
   2. Aluminum cord connector.
   3. Stainless steel mesh grip.

B. Hazardous Areas:
   1. Manufacturers: One of the following or equal:
      a. Killark, Series ZE.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install wiring devices in accordance with manufacturer's instructions.

B. Mount wiring devices as indicated on the Drawings.

3.02 LOCAL PUSHBUTTON MOTOR CONTROL STATION INSTALLATION

A. Install Start-Lockout-Stop pushbutton control stations adjacent to every motor unless otherwise indicated on the Drawings.

3.03 ADJUSTMENT

A. Adjust wiring devices as specified in Section 01756.

3.04 PROTECTION

A. Protect products until acceptance by OWNER.

END OF SECTION

SECTION 16212

METERING AND RELAYING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Instruments, relays, potential transformers, current transformers and other devices installed in motor control centers, variable frequency drives, switchboards, switchgear, and similar engineered equipment.

B. Related Sections:
   1. Refer to Section 16010.

1.02 SUBMITTALS

A. Shop Drawings: Refer to Sections 01330 and 16050.

1.03 WARRANTY

A. Provide per Section 16050.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Instruments: Manufacturers: One of the following or equal:
   1. General Electric Company.
   2. Cutler-Hammer.
   3. Square D Company.
   4. Allen Bradley Company.

B. Relays:
   1. Induction Type: Manufacturers: One of the following or equal:
      a. General Electric Company.
      b. Cutler-Hammer.
   2. Solid State Type: Manufacturers:
      a. Schweitzer, not equal.

C. Potential transformers: Manufacturers: One of the following or equal:
   1. General Electric Company.
   2. Cutler-Hammer.
   3. Square D Company.

D. Current Transformers: Manufacturers: One of the following or equal:
   1. General Electric Company.
   2. Cutler-Hammer.
   3. Square D Company.

2.02 COMPONENTS

A. Instruments, Relays, and Other Devices for Panels: Utility grade, flush or semi-flush mounted with cases of similar design.

B. Instruments: Antiglare glass fronts, antiparallax scales, and white faces with black numerals and markings.
   1. Select with the full-load reading at approximately 75 percent of full scales, unless otherwise specified.
   2. Accuracy of instruments: One percent of full scale values.

C. Potential Transformers: Indoor, dry type, single phase, 60 hertz, with a 0-120 volt secondary, and rated as required for the equipment furnished.
   1. Furnish with current limiting fused disconnects.
   2. Equip with resistors s required to limit the fault current to a value which the fuse is able to interrupt without damage.
   3. Transformer Accuracy: Suitable for meters and relays.

D. Medium Voltage Potential Transformers: As specified in the respective Section of the medium voltage equipment specifications.

E. Current Transformers: Indoor, dry type insulated for the voltage for which it is used and rated as required for the equipment furnished with a 0-5 ampere secondary.
   1. Rated for sufficient thermal and mechanical capacity to withstand the maximum momentary short circuit current rating of the associated circuit breaker.
   2. Transformer Accuracy: Suitable for meters and relays.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Calibrate relays and verify settings and operational characteristics using relay testing equipment manufactured by Multi-amp Corporation. Test shall be performed by qualified personnel experienced in operation of the equipment and adjustment of relays, subject to witnessing by the ENGINEER. Furnish three (3) copies of test reports to the OWNER. In the event the system should require resetting or recalibration of relays, perform such settings and testing without additional cost to OWNER.

3.02 ADJUSTMENT

A. Set adjustable protective relays to operate at time, current, voltage, and other appropriate values as determined by the coordination study as accepted by ENGINEER.

B. Install a calibration sticker with the date of calibration, due date of next calibration, settings, name of firm, and qualified test personnel.

C. Provide data sheet for each device calibrated.

D. Perform calibration with secondary standards with the appropriate certificates for calibration.

3.03 DEMONSTRATION

A. Demonstrate operation of equipment.

3.04 PROTECTION

A. Protect products until acceptance by OWNER.

END OF SECTION

SECTION 16412

LOW VOLTAGE CIRCUIT BREAKERS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Low voltage circuit breakers as indicated on the Drawings and as specified.

1.02 REFERENCES

A. National Electrical Manufacturers Association (NEMA): Standards Publication No. AB1.

B. National Electrical Code (NEC): Article 430-52.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Circuit Breakers: Manufacturers: One of the following or equal:
   1. Square D
   2. Cuter Hammer
   3. Allen Bradley

2.02 CIRCUIT BREAKERS - LOW VOLTAGE

A. Circuit Breaker Frame and Trip Ratings: As indicated on the Drawings and coordinated with the ratings of the equipment actually furnished. Modify ratings where necessary to suit this equipment.

B. Panelboard Circuit Breakers: Bolt-in type. Snap-in circuit breakers are not acceptable.

2.03 MOLDED-CASE CIRCUIT BREAKERS

A. Molded-case Circuit Breakers: Ambient compensating which provides inverse time delay overload and instantaneous short circuit protection by means of a thermal magnetic element. Accomplish compensation by a secondary bimetal that will allow the breaker to carry rated current between 25 degrees Centigrade and 50 degrees Centigrade with tripping characteristics which are approximately the same throughout this temperature range.

B. Circuit Breaker Ratings and Modifications: As indicated on the Drawings.

C. On Breakers with Interchangeable, Thermal, Adjustable Magnetic Trip: The accessibility and position of the adjustment knob shall not be changed from those on the standard breaker.

D. Breakers: Operated by a handle and provided with a quick-make, quick-break switching mechanism that is mechanically trip free from the handle so that the contacts cannot be held closed against short circuits and abnormal currents.
   1. Tripping Due to Overload, Short Circuit, or Ground Fault: Clearly indicate tripping by the handle automatically assuming a position between the manual ON and OFF positions.
   2. Latch Surfaces: Ground and polished.
   3. Poles: Constructed so they all open, close and trip simultaneously.
   4. Conform to the applicable requirements of NEMA Standard No. AB1.

E. Breakers: Completely enclosed in a molded case.
   1. Non-interchangeable Trip Breakers: Sealed covers.
   2. Interchangeable trip breakers: Sealed trip unit to prevent tampering.
   3. Ampere Ratings: Clearly visible.
   4. Contacts: Non-welding silver alloy.
   5. Arc Extinction: Accomplished by means of arc chutes.
   6. Ground Fault Protection: Provide on main circuit breaker on switchboards and motor control centers.

F. Minimum Interrupting Ratings: Not less than 65,000 RMS amperes.

G. Circuit breakers for lighting panelboards shall be rated to 22,000 RMS amperes.

2.04 MOTOR CIRCUIT PROTECTORS

A. Motor Circuits: Protected by motor circuit protectors, as permitted by Item 1 below:

B. Motor Circuit Protectors: Operated by a handle and provided with a quick-make, quick break switching mechanism that is mechanically trip free from the handle so that the contacts cannot be held closed against short circuits and abnormal currents.
   1. Tripping: Clearly indicated by the handle automatically assuming a position between the manual ON and OFF positions.
   2. Latch Surfaces: Ground and polished.
   3. Poles: Constructed so they all open, close, and trip simultaneously.

C. Motor Circuit Protectors: Completely enclosed in a molded case.
   1. Trip Unit: Sealed to prevent tampering.
   2. Ampere Ratings: Clearly visible.
   3. Contacts: Non-welding silver alloy.
   4. Arc Extinction: Accomplished by means of arc chutes.

D. Provide each pole of motor circuit protectors with instantaneous short circuit protection by means of a single adjustable magnetic only element. The single adjustment screw is to adjust all poles simultaneously.

E. Furnish motor circuit protectors with provision for locking the maximum achievable trip setting to values less than maximum obtainable trip setting. Each adjustment typically to have 8 main setting points and mid-setting points following a linear scale so that each point has a significant value within calibration tolerances.

F. Motor Circuit Protectors: Suitable for use with current limiters, having 100,000 ampere interrupting capacity and a built-in trip indicator, that are fully coordinated with the motor circuit protectors so that the motor circuit protectors will open all 3 phases if the limiter operates.

1. Current limiters shall be so constructed that they can only be replaced by an identical or similar limiter having the same interrupting capacity.

G. Minimum Interrupting Ratings: Not less than 65,000 RMS amperes.

H. Motor Circuit Protectors Continuous Current Rating: As specified herein or as indicated on the Drawings.
   1. Setting: The motor circuit protectors setting shall be in accordance with the Manufacturer's protective device coordination study as accepted by the ENGINEER and in accordance with the motor circuit protectors manufacturer's recommendation based on motor nameplate current or actual motor current, whichever is larger.

I. Utilize an instantaneous trip circuit breaker or motor circuit protector only as part of a listed combination motor controller which provides coordinated motor branch-circuit overload, and short-circuit and ground-fault protection in accordance with NEC Article 430-52.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 16448

PANELBOARDS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Dead-front panelboards, including lighting distribution and control panelboards.

B. Related Section:
   1. Refer to Section 16010.

1.02 REFERENCES

A. National Electrical Manufacturers Association (NEMA):
   1. NEMA 250 - Enclosures for Electrical Equipment (1,000 Volts Maximum).

B. Underwriter's Laboratories, Inc. (UL):
   1. UL 67 - Panelboards.

1.03 PERFORMANCE REQUIREMENTS

A. Minimum Interrupting Capacity of Device: Equal to available short circuit current at line terminals as determined by CONTRACTOR's short circuit fault analysis as accepted by ENGINEER, but not less than 65,000 amperes.

B. Provide main bus rating of panelboards, number of poles, and provisions for number of circuits as indicated on the Drawings.

1.04 SUBMITTALS

A. Refer to Sections 01330 and 16010.

B. Product Data: Include manufacturer's specifications and description.

C. Shop Drawings: Submit in accordance with Section 01330. Include panelboard layout.

1.05 WARRANTY

A. Provide per Section 16050.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Panelboards: One of the following or equal:
   1. Eaton Pow-R-Line 2a,
   2. Square D Company.
   3. General Electric Company.

2.02 INTERIOR

A. Bus: Size main bus bars in accordance with UL standards to limit temperature rise on any current carrying part to a maximum of 50 degrees Centigrade above specified ambient maximum.
   1. Tin plated copper bussing.

B. Install protective devices such that they can be replaced without disturbing adjacent units. Wire connectors shall be suitable for wire sizes [indicated on the Drawings].

C. Number branch circuits and spares as indicated on the Drawings and furnish complete typed circuit schedule in directory cardholder affixed to panel under a transparent cover.

D. Phase busing shall be full size and height without reduction. Include full size neutral bars with suitable lugs for the maximum number of circuits which can be connected to the panel.

E. Spares and spaces for future protective devices in panels indicated on the Drawings shall be bussed for panel rating or the main circuit breaker rating.

F. Provide panels with tin plated copper ground bus separate from neutral bars. Ground bus to have suitable lug for each circuit breaker installed including future circuits.

2.03 ENCLOSURES

A. Size panelboards sufficiently to provide minimum 4 inches of gutter space on all sides. Doors shall be such that:
   1. Live parts shall not be exposed when circuit breakers or switches are put in service.
   2. Hinges and latches shall not require tools to operate.

B. Furnish lock and minimum 2 keys each panelboard. Key all panelboard locks alike.

C. Enclosure type as indicated on the Drawings. Where not indicated on the Drawings:
   1. Indoor Enclosures: NEMA 12.
   2. Outdoor Enclosures: NEMA 4X 316 stainless steel.

D. Mounting shall be as indicated on the Drawings.

E. Finish stand alone panelboards with a primer, rust-resistant phosphate undercoat and 2 coats of oven-baked enamel with finish color ANSI 61 gray or a color to be selected by the ENGINEER.

F. Finish motor control center mounted panelboards to match the MCC finish and color, unless directed otherwise.

2.04 CIRCUIT BREAKERS

A. Circuit Breakers: As specified in Section 16412.

B. Provide a means to padlock each circuit breaker in the off position.

2.05 IDENTIFICATION

A. Label panelboards to indicate use as service entrance equipment where indicated on the Drawings or specified.

B. Label panelboards with UL short circuit current rating.

C. Provide each panelboard which is not an integral part of a motor control center with a lamicoid nameplate on outside of door, as specified in Section 16075, Electrical Identification.

PART 3 EXECUTION

3.01 INSTALLATION

A. As indicated on the Drawings, or as required, in a workmanlike manner.

3.02 FIELD QUALITY CONTROL

A. Test main circuit breaker(s) in accordance with NETA standards.

END OF SECTION

SECTION 16500

LIGHTING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Lighting fixtures, lamps, poles, and accessories.

B. Related Sections:
   1. Refer to Section 16010.

1.02 REFERENCES

A. Underwriter's Laboratories (UL):
   1. UL 1029 - High-Intensity Discharge Lamp Ballasts.

1.03 SUBMITTALS

A. Refer to Sections 01330 and 16010.

B. Product Data:
   1. Applicable coefficients of utilization tables, isolux chart of illumination on a horizontal plane, beam efficiency, horizontal and vertical beam spread, beam lumens.
   2. Submit pole seismic and wind-load design calculations before fixtures and poles are manufactured.

C. Samples: Include finish Sample for lighting fixtures and poles.

D. Manufacturer's installation instructions.

1.04 WARRANTY

A. Per Section 16050.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Lighting Fixtures: As noted on Lighting Fixture Schedule and the Drawings.

B. Plugs and Receptacles: As specified in Section 16140.

2.02 FIXTURES

A. Lighting Fixtures: As described in Lighting Fixture Schedule, as specified, and as indicated on the Drawings.
   1. Fixtures shall include lamps, poles, mounting hardware, and appurtenances to provide complete operating units.

B. All lighting Fixtures shall be LED type.

2.03 POLES

A. Design for wind design criteria as specified in Section 01614.

B. Design for seismic design criteria as specified in Section 01612 for the project site without structural damage.

C. Anchor Bolts, Washers, and Nuts: Stainless steel.

2.04 LIGHTING CONTACTORS

A. Silver-cadmium-oxide, double-break contacts.

B. 20 ampere rating for lighting circuits.

C. Mechanically held.

D. Number of poles as indicated on the Drawings with a minimum of 2 poles and a maximum of 12 poles for each contactor provided.

E. Manufacturers: One of the following or equal:
   1. Square D Company, Type LX.
   2. ASCO, Model 917.

PART 3 EXECUTION

3.01 INSTALLATION

A. Surface and Flush Mounted Fixtures: Solidly connected to a junction box.

B. Suspended Fixtures: Hung utilizing pendant mounting or stainless steel chains and hooks. Electrically connect each fixture, or row of fixtures, by a length of Type SO flexible cord, 3 conductor Number 14 American Wire Gauge minimum, with a twist-lock plug to a twist-lock receptacle mounted in an individual junction box.

C. Pole Mounted Fixtures: Mount on steel, aluminum, or fiberglass poles as described in Lighting Fixture Schedule and as indicated on the Drawings.
   1. Ground or bond metal poles to the plant grounding system.
   2. Poles shall have adequate handholes in accordance with NEC requirements.
   3. Poles shall have weatherproof switches, receptacles, photo cells where indicated on the Drawings.

3.02 SPARES

A. Fixtures and Mounting Accessories: No spares required.

3.03 LIGHTING FIXTURE SCHEDULE

A. Refer to Drawings for Fixture Schedule.

3.04 PROTECTION

A. Protect products until accepted by OWNER.

END OF SECTION

SECTION 16950

ELECTRICAL TESTING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Acceptance testing of electrical system, wiring, equipment, and grounding.

B. Related Sections:
   1. Refer to Section 16010.

1.02 REFERENCES

A. National Electrical Testing Association (NETA):
   1. ATS-2013 - Acceptance Testing Specifications for Electric Power Distribution Equipment and Systems.

1.03 SUBMITTALS

A. Refer to Sections 01330 and 16010.

B. Pre-test Submittals:
   1. Testing service qualifications.
   2. Test personnel qualifications (resumes).
   3. Equipment testing schedule.
   4. Sample equipment test data forms for all equipment and systems to be tested.
   5. Functional testing data sheets for all systems tested. Functional testing plan shall include individual testing line items for each alarm and indication feature for each mode of operation (i.e. Local, Off and Remote). Each functional test line item shall be developed in a “cause and effect” format which shall include an initial condition/set-up description field, action field (i.e. activate high-high level alarm), description of expected result field and “Expected Result Observed” field which shall include spaces for both the Contractor’s and Engineer’s initials.

C. Post-test Submittals: Summary Test Report consists of the following:
   1. Summary of testing for the project.
   2. Description of the equipment tested.
   3. Description of the test and test procedures.
   4. Test results.
   5. Conclusions and recommendations.
   6. Completed test forms, including witness's signatures.
   7. List of test equipment and calibration documents.
   8. Date and time.
   9. Include the Following Data Tabulated for Each Piece of Equipment:
      a. Circuit number.
      b. Equipment or motor name and tag number (where applicable).
      c. Nameplate full-load-ampere rating.
      d. Motor service factor.
      e. Motor ambient temperature rating.
      f. Overload relay rating.

g. Measured full load current.
h. Measured discharge pressure (where applicable).
i. Measured flow rate (where applicable).

D. Submit Equipment Testing Schedule no later than 14 days prior to scheduled date of testing.

E. Project Record Documents: Submit as specified in Section 01770. Note or indicate wiring deviations from Contract Documents on Project Record Documents.

1.04 QUALITY ASSURANCE

A. Testing Firm Qualifications:
1. Obtain the services of an independent testing service firm that meets the Federal OSHA criteria for accreditation of testing laboratories, Title 29, Part 1910.7 and has a work history and qualifications acceptable to Engineer.
2. Prequalified Testing Services and Manufacturing Firms:
a. General Electric Company.
b. Cutler-Hammer.
c. Square D Company Technical Service Divisions.
d. Electro-Test Inc.
3. Qualifications of other testing service firms may be submitted.
4. Testing service or testing personnel may be accepted or rejected based upon, but not limited to, the testing equipment intended to be used, the qualifications of the firm, and personnel.

B. Test Equipment Traceability:
1. Testing firm shall have a calibration program which maintains applicable test instrumentation and equipment within rated accuracy.
2. Equipment and instruments used to evaluate electrical performance shall be calibrated to a secondary standard traceable to the National Institute of Standards and Technology.
3. Test equipment operating instructions and procedures shall be with the test equipment.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that electrical work is free from improper grounds, short circuits, and overloads.

B. Verify correctness of wiring first by visual comparison of the conductor connections with connection diagrams.

C. Make individual circuit continuity checks by using electrical circuit testers.

D. Verify correctness of wiring by actual electrical operation of electrical and mechanical devices in both manual and automatic modes of operation.

3.02 ACCEPTANCE TESTING

A. Perform equipment integrity testing and invite Owner and Engineer to witness testing. All equipment integrity testing shall be successfully completed prior to energization of equipment. Equipment that does not initially pass integrity testing shall be repaired and re-tested until successful results are obtained.

B. Perform electrical acceptance testing in accordance with latest NETA Standards.

C. Perform functional tests to assure that electrical equipment specified to be tested will operate in accordance with the specified requirements. Functional testing shall be witnessed by the Engineer. Prior to performing witnessed functional tests, the Contractor shall perform a “dry run” on all functional test line items to verify that each tested system operates successfully. During witnessed functional testing, should the tested systems not operate as expected, the testing shall be halted and re-scheduled with no time extension granted to the Contractor for this additional testing work.

D. Test motorized equipment to verify conformance with the Contract Documents and for acceptance.

E. Install equipment with acceptable data. Equipment for which acceptable test data has not been submitted, or has been submitted but rejected, shall be deemed as not meeting Contract requirements.

F. Test Project electrical equipment, including 600 volt electrical distribution equipment and grounding. Complete test reports for each individual piece of equipment.

G. Test Project electrical equipment included on, but not limited to, the following list:
   1. Low-Voltage 600-volt Cables.
   2. Low-Voltage Circuit Breakers.
   3. Protective Relays.
   4. Instrument Transformers.
   5. Metering and relying
   6. Grounding System.
   7. Ground-Fault Protection.
   8. Grounding system connection to new equipment.
   9. Panelboards.
   10. System Function Tests.
   11. Perform a thermographic Survey of all new electrical connections in Panels and MCCs.

3.03 SUMMARY TEST REPORT

A. Upon completion of testing in every area, submit summary test report for acceptance by the Engineer.

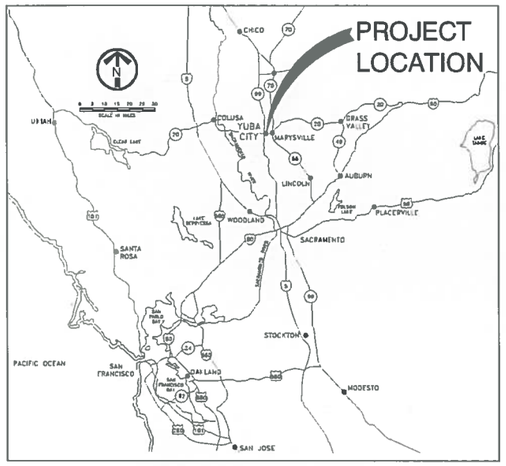
END OF SECTION

CONTRACT DRAWINGS FOR

CITY OF YUBA CITY

WWTP

SEPTAGE RECEIVING STATION PROJECT



VICINITY MAP

HERWIT
ENGINEERING
6200 CENTER STREET, SUITE 310
CLAYTON, CA 94517
(925) 672-6599

SUBMITTED:

Kurt A. Gardner, Partner CE 45712

Gregory P. Harris, Partner ME 28326

SUBCONSULTANTS:

AROSTEGUI ENGINEERS
2219 GILL PORT LANE
WALNUT CREEK, CA 94598

CAPSTONE STRUCTURAL ENGINEERING
7353 W. RIVERVIEW DR.
COEUR D'ALENE, ID 83814

VOLUME 2 OF 2
DRAWINGS

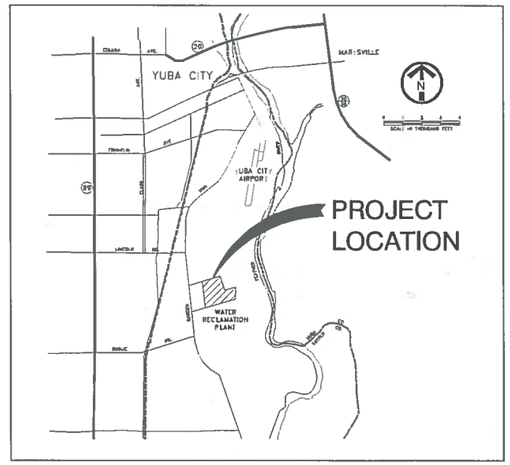
APPROVED FOR CONSTRUCTION:

APPROVED ON: _____

CITY OF YUBA CITY COUNCIL

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SHT No.	DWG No.	DWG TITLE
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3	T-02	TYPICAL DETAILS
4	T-03	TYPICAL DETAILS
5	T-04	TYPICAL DETAILS
6	T-05	TYPICAL DETAILS
7	T-06	TYPICAL DETAILS
8	T-07	TYPICAL DETAILS
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26	I-02	MCP-100, HCP-200 AND NCP-300 - PANEL LAYOUTS
27	I-03	MCP-100, HCP-200 AND NCP-300 - PANEL LAYOUTS



LOCATION MAP

GENERAL NOTES:

1. GROUND WATER LEVELS MAY CHANGE WITH SEASON AND PERCHED GROUNDWATER MAY BE FOUND ANYWHERE. CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING.
2. CONTRACTOR SHALL CALL "UNDERGROUND SERVICE ALERT" AT (800) 227-2600 AT LEAST ONE (1) WEEK PRIOR TO START OF CONSTRUCTION FOR LOCATING UNDERGROUND UTILITIES.
3. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY LINES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL POTHOLE AND DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES IN ACCORDANCE WITH THE SPECIAL PROVISIONS, AS REQUIRED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO CITY OR OTHER UTILITIES CAUSED BY HIS OPERATIONS.
5. THE CONTRACTOR SHALL MAINTAIN REASONABLE ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION. MAIL AND REFUSE SERVICE SHALL BE MAINTAINED THROUGHOUT THE COURSE OF THIS PROJECT. THE U.S. POSTAL SERVICE SHALL HAVE UNINTERRUPTED ACCESS TO MAILBOXES AT ALL TIMES.
6. SOIL IN YUBA CITY IS GENERALLY CLAYEY SAND, CLAYEY SILT, SILTY SAND, SAND, ETC. THE CITY OF YUBA CITY AND ENGINEER MAKE NO REPRESENTATIONS AS TO THE TYPE OF SOIL THAT WILL BE ENCOUNTERED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DO ANY SOILS TESTS NECESSARY TO DETERMINE THE ACTUAL SOIL CONDITIONS THAT WILL BE ENCOUNTERED ON THIS PROJECT.

DRAWING SET No.	2025-208
DRAWING NO.	G-01
SHEET NO.	1 OF 27

Last Saved 4-30-26 10:54am \\H-200\Herwit\City of Yuba City\Septage Receiving Station\Drawings\Working\VHC-sept-G-01 4-30-26 11:22am hvaino ; HERWIT ENGR: X-YC-Vicmap, X-YC-Locmap X-YC-Dwglnd-sept ,D&S - Vicinity tiff,ECO - Vicinity tiff,ECO Vicinity tiff,google map gen 1.tiff,vicinity tiff,ECO - Loca

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
3. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK, DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.

G001 TYP GENERAL NOTES

ABBREV	DESCRIPTION
AA	AERATION AIR
AB	ANCHOR BOLT
ABC	AGGREGATE BASE COURSE
AC	ASPHALTIC CONCRETE
ACB	AIR CIRCUIT BREAKER
ACP	ASBESTOS CEMENT PIPE OR ACOUSTIC CEILING PANELS
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT ADJUSTABLE
ADJ	
AFF	ABOVE FINISHED FLOOR
AHR	ANCHOR
AI	ANALOG INPUT
AIC	AIR COMPRESSOR
AID	AIR DRYER
ALM	ALARM
ALTN	ALTERNATE
AL	ALUMINUM
AO	ANALOG OUTPUT
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ATC	ACOUSTICAL TILE CEILING
AWP	ACOUSTIC WALL PANEL
AUTO	AUTOMATIC
AUX	AUXILIARY
AV	ANGLE VALVE
AVG	AVERAGE
@	AT
BCV	BALL CHECK VALVE
BCW	BARE COPPER WIRE
BD	BOARD
BF	BLIND FLANGE
BFP	BACK FLOW PREVENTER
BFV	BUTTERFLY VALVE
BL	BLEACH
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BLO	BLOWER
BM	BEAM
BRG	BEARING
BRKR	BREAKER
BS	BOTTOM SLUDGE
BSC	BAR SCREEN
BSCIP	BELL & SPIGOT CAST IRON PIPE
BSP	BLACK STEEL PIPE
BTU	BRITISH THERMAL UNITS
BV	BALL VALVE
BYP	BYPASS
C	CONDUIT
C TO C	CENTER TO CENTER
CA	CONCRETE ANCHOR
CB	CATCH BASIN
CFM	CUBIC FOOT PER MINUTE
CHAN	CHANNEL
CHS	CHLORINE RESIDUAL SENSOR
CHL	CHLORINE
CHR	CHLORINE RESIDUAL
CIP	CAST IRON PIPE
CIRC	CIRCUMFERENTIAL
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CL OR ℄	CENTER LINE OR
CLOSE (D)	CLOSE (D)
CLD	CHLORINE LEAK DETECTOR
CLG	CEILING
CLP	CONTROL PANEL
CLR	CLEAR
CLS	CHLORINE SOLUTION
CLV	CHLORINE VACUUM
CMLSP	CEMENT MORTAR LINED STEEL PIPE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CO	CLEANOUT OR CONDUIT ONLY
COL	COLUMN
COMP	COMPACTED
COMPA	COMPRESSED AIR
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUE (D) (OUS) OR CONTROL
CPLG	COUPLING
CPT	CONTROL POWER TRANSFORMER
CR	CONDENSATE RETURN
CRN	CRANE
CRPT	CARPET TILE
CSP	CARBON STEEL PIPE
CT	CERAMIC TILE
CTD	CENTERED
CTSK	COUNTERSUNK
CU	CUBIC
CUP	COPPER PIPE
CW	COLD WATER
DBL	DOUBLE
DCS	DECHLORINATION SOLUTION OR DISTRIBUTED CONTROL SYSTEM OR DILUTED CAUSTIC SOLUTION
DEG	DEGREE
DET	DETAIL
DG	DIGESTER GAS
DGR	DEGRITTED RETURN
DGS	DIGESTED SLUDGE
DI	DICRETE INPUT
DIA OR ø	DIAMETER
DIAG	DIAGONAL
DIG	DIGESTER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIPBS	DUCTILE IRON PIPE, BELL & SPIGOT
DIPMJ	DUCTILE IRON PIPE, MECHANICAL JOINT
DIST	DISTRIBUTION
DJ	DOUBLE JOINT
DMPR	DAMPER
DN	DOWN
DO	ENGINE DIESEL OIL OR DISCRETE OUTPUT
DR	DRAIN OR DRIVE
DS	DOWN SPOUT
DSL	DIGESTED SLUDGE
DV	DIAPHRAGM VALVE
DW	DEWATERING PUMP DISCHARGE
DWG	DRAWING
E	EAST OR BURIED ELECTRICAL
EA	EACH
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EDB	ELECTRICAL DUCT BANK
EE	ENGINE EXHAUST
EF	EACH FACE OR EXHAUST FAN
EFL	EFFLUENT
EFU	EXHAUST FAN UNIT
EGR	ENGINE GENERATOR ROOM
EJW	ENGINE JACKET WATER
EL	ELEVATION
ELB	ELBOW
ELEC	ELECTRIC (AL)
EMBED	EMBEDMENT
EMH	ELECTRICAL MANHOLE
ENGR	ENGINEER
EO	EMERGENCY OVERFLOW
EOP	EDGE OF PAVEMENT
EP	EXPLOSION PROOF
EQL	EQUAL
EQPT	EQUIPMENT
ES	EMERGENCY STOP
ESEW	EMERGENCY SHOWER AND EYEWASH
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
EXP	EXPANSION
EXPO	EXPOSED
EXT	EXTEROIR
F	FIRE WATER
FA	FLAME ARRESTOR OR FULL AIR
FACP	FIRE ALARM CONTROL PANEL
FAE	FOUL AIR EXHAUST
FAN	FAN
FB	FLAT BAR
FC	FLEXIBLE CONNECTION OR FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTER
FCL	FAILS CLOSED OR FERRIC CHLORIDE
FCS	FERRIC CHLORIDE SOLUTION
FCTF	FACTORY FINISH
FCV	FLAPPER CHECK VALVE
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FINAL EFFLUENT OR FLOW ELEMENT
FEC	FIRE EXTINGUISHER CABINET
FEXT	FIRE EXTINGUISHER
FF	FAR FACE OR FACTORY FINISH
FG	FINISH GRADE
FHY	FIRE HYDRANT
FIG	FIGURE
FILP	FAILS IN LAST POSITION
FIN FL	FINISH FLOOR
FIT	FLOW INDICATOR/ TRANSMITTER
FL	FLOOR
FLEX	FLEXIBLE
FLG	FLANGE
FLGA	FLANGE ADAPTER
FLL	FLOW LINE
FLT	FILTRATE
FO	FAILS OPEN OR FUEL OIL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FPR	FIRE ALARM CABLE PAIR
FR	FORWARD-REVERSE
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FAST-SLOW
FSH	FLUSH SHELL
FSLOS	FAST-SLOW LOCKOUT STOP
FSP	FABRICATED STEEL PIPE
FST	FAST OR FORWARD-STOP
FSST	FAST-SLOW-STOP
FT	FOOT
FTC	FAIL TO CLOSE
FTG	FOOTING
FTO	FAIL TO OPEN
G	GRIT PIPING
GA	GAGE OR GAUGE
GALV	GALVANIZE (D)
GB	GRAB BAR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTOR
GL	GLASS
GLB	GLUE LAMINATED BEAM
GLCIP	GLASS LINED CAST IRON PIPE
GLV	GLOBE VALVE
GND	GROUND
GR	GRADE
GSP	GALVANIZED STEEL PIPE
GTV	GATE VALVE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
H1E	HOOK ONE END
H2E	HOOK TWO ENDS
HA	HAND-AUTO
HCS	HYPOCHLORITE SOLUTION
HDS	HEATED DIGESTED SLUDGE
HDW	HARDWARE
HLA	HIGH LEVEL ALARM
HM	HALLOW METAL
HOA	HAND-OFF-AUTO
HORIZ	HORIZONTAL
HPA	HIGH PRESSURE AIR
HPS	HIGH PRESSURE SODIUM
HPT	HIGH POINT
HPU	HEAT PUMP UNIT
HR	HOSE RACK
HTR	HEATER
HW	HEATED DOMESTIC WATER OR HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY OR HIGH WATER SURFACE
IA	INSTRUMENT AIR
IC	INSTRUMENTATION CONDUIT
ID	INTERIOR DIAMETER
IN OR "	INCH
INCLR	INTERCOOLER
INF	INFLUENT
INJ	INJECTOR
INSTR	INSTRUMENT (ATION)
INSUL	INSULATE (D) (ING) (TION)
INTEG	INTEGRAL
INTR	INTERIOR
INVT	INVERT
IPB	INSTRUMENTATION PULL BOX
IPD	INFLUENT PUMP DISCHARGE
IPR	INFLUENT PUMP RECYCLE
ISB	INFLUENT SEWER BYPASS
I/O	INPUT/OUTPUT MODULE
J	JOIST
JAN	JANITOR
JB	JUNCTION BOX
JT	JOINT
L	ANGLE OR LEFT
LA	LIGHTNING ARRESTER
LAB	LABORATORY
LAV	LAVATORY
LC	LOCK CLOSE
LCP	LOCAL CONTROL PANEL
LIM SW	LIMIT SWITCH
LLA	LOW LEVEL ALARM
LLCO	LOW LEVEL CUT OFF
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO	LOCK OUT
LOP	LOCK OPEN
LOR	LOCAL-OFF-REMOTE
LOS	LOCKOUT-STOP
LP	LOW POINT OR LIQUID PROPANE
LPA	LOW PRESSURE AIR
LR	LONG RADIUS
LRA	LOCAL-REMOTE-AUTO
LS	LIMIT SWITCH
LSA	LEVEL SENSOR, AIR (BUBBLER)
LTG	LIGHTNING
LUBO	LUBE OIL
LVR	LOUVER
LWS	LOW WATER SURFACE
L/L	LEAD/LAG
L/L/LL	LEAD/LAG/LAG-LAG
L/R	LOCAL-REMOTE
MATL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MECH	MECHANICAL
MFRS	MANUFACTURER'S
MH	MANHOLE, SANITARY
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MJDIP	MECHANICAL JOINT DUCTILE IRON PIPE
MK	MARK
ML	MIXED LIQUOR
MON	MONUMENT
MSL	MEAN SEA LEVEL
MTD	MOUNTED
MV	MOTORIZED VALVE
MWS	MAXIMUM WATER SURFACE
MXR	MIXER
N	NORTH
NA	NOT APPLICABLE
NAT GR	NATURAL GRADE
NC	NORMALLY CLOSED
NCHO	NORMALLY CLOSED HEAD OPEN
NDV	NEEDLE VALVE
NF	NEAR FACE
NG	NATURAL GAS
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NO OR #	NUMBER
NOHC	NORMALLY OPEN HEAD CLOSED
NOM	NOMINAL
NP	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
NV	NEEDLE VALVE
OC	ON CENTER
OCL	OPEN-CLOSE
OD	OUTSIDE DIAMETER
OIS	OPERATOR INTERFACE STATION
OP	OPEN
OPNG	OPENING
OPP	OPPOSITE
OPR	OPERATE(OR)
OSC	OPEN-STOP-CLOSE
OTF	OUTFALL
OVFL	OVERFLOW
OVLD	OVERLOAD
PA	PAGING SYSTEM
PB	PULL BOX
PCV	PLUG CONCENTRIC VALVE
PD	PLANT DRAIN
PE	PLANT EFFLUENT
PEF	PRIMARY EFFLUENT
PERP	PERPENDICULAR
PEV	PLUG ECCENTRIC VALVE
PG	PRESSURE GAUGE
PH	PHASE
PHW	PLANT HOT WATER
PI	POINT OF INTREST
PIN	PRIMARY INFLUENT
PIV	PINCH VALVE
PL	PLATE (STEEL) OR PROPERTY LINE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLCS	PLACES
PLE	PLAIN END

G010 TYP ABBREVIATIONS SHEET 1 OF 6

ABBREV	DESCRIPTION
PLYWD	PLYWOOD
PMP	PUMP
PNL	PANEL
POL	POLYMER
POLS	POLYMER SOLUTION
PR	PAIR OR INSTRUMENT CABLE PAIR
PRC	PLANT RECYCLE
PREFAB	PREFABRICATED
PRI	PRIMARY
PRPNE	PROPANE GAS
PRV	PRESSURE REDUCING VALVE
PS	PRIMARY SLUDGE
PSC	PRIMARY SCUM
PSI	POUND PER SQUARE INCH
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVCP	RIGID POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
R	RIGHT OR PLANT RECYCLE FLOW
RAD	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RCP	REINFORCED CONCRETE PIPE
RCPT	RECEPTACLE
RD	ROOF DRAIN
RDCR	REDUCER
RDR	ROLL-UP-DOOR
RDY	READY
REF	REFERENCE
REINF	REINFORCE (D)(ING)(MENT)
REJ	RUBBER EXPANSION JOINT
REQD	REQUIRED
REV	REVISION OR REVERSE ACTING
RM	ROOM
RMT	REMOTE
RP	RADIUS POINT
RS	RAW SEWAGE
RTM	RUNNING TIME METER
R/W	RIGHT-OF-WAY
S	SOUTH
SA	SAMPLE PIPING OR SERVICE AIR
SC	SCUM
SCHED	SCHEDULE
SCS	SCRUBBER CHLORINE SOLUTION
SCV	SWING CHECK VALVE
SD	STORM DRAIN
SE	SECONDARY EFFLUENT
SEC	SECONDARY
SECT	SECTION
SEL	SELECT
SF	SUPPLY FAN
SGL	SINGLE
SH	SHEET
SHW	SECONDARY HOT WATER
SIL	SILENCE
SIM	SIMILAR
SL	SLOW
SLG	SLUDGE OR SLUICE GATE
SLOS	START-LOCKOUT-STOP
SLP	SLOPE
SN	SUPERNATANT
SOLV	SOLENOID VALVE
SOV	SULFUR OXIDE VACUUM
SP	STOP
SPEC	SPECIFICATION
SPLP	SAMPLER PUMP
SQ	SQUARE
SR	STOP-RESET
SRG	SPLIT RANGE
SS	SERVICE SINK OR START-STOP
SSC	SECONDARY SCUM
SSL	SECONDARY SLUDGE
SST	STAINLESS STEEL
SSTT	SOLID STATE TRIP
SSW	SANITARY SEWER
ST	STEAM OR START
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE

G010 TYP ABBREVIATIONS SHEET 5 OF 6

ABBREV	DESCRIPTION
STR	STRAINER
STRL	STRUCTURAL
SUSP	SUSPENDED
SW	SOFTENED WATER
SWGR	SWITCHGEAR
SWR	SEAL WATER
SYMM	SYMMETRICAL
S/W	SIDEWALK
TBG	TUBING
TD	THERMAL DISPERSION
TDR	TOWEL DISPENSER/ RECEPTACLE
TE	THICKENER EFFLUENT
TEL	TELEPHONE SERVICE OR TELEPHONE
TEMP	TEMPERATURE
TFR	TRANSFORMER
TH	TOILET PAPER HOLDER
THERMO	THERMOSTAT
THK	THICK
TO	TOP OF
THO	THICKENER OVERFLOW
THRU	THROUGH
TJB	TELEPHONE JUNCTION BOX
TNK	TANK
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WEIR
TPS	THICKENED PRIMARY SLUDGE
TS	THICKENED SLUDGE
TWAS	THICKENED WASTE ACTIVATED SLUDGE
TYP	TYPICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UR	URINAL
V OR VLV	VALVE
VAC	VACUUM
VB	VALVE BOX
VC	VICTAULIC COUPLER
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VN	VENT
VOL	VOLUME
VP	VENT PIPE
VTR	VENT THROUGH ROOF
W	WEST
WAS	WASTE ACTIVATED SLUDGE
WC	WATER CLOSET
WD	WOOD
WF	WIDE FLANGE (BEAM)
WH	WATER HEATER
WO	WASTE OIL
WP	WORKING POINT OR WEATHERPROOF
WS	WATER SURFACE
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITHOUT
XFMR	TRANSFORMER
YD	YARD
1W	POTABLE WATER
2W	NON-POTABLE WATER
2W/HW	HEATED 2W
3W	PLANT RECLAIMED WATER
4WV	FOUR WAY VALVE

G010 TYP ABBREVIATIONS SHEET 6 OF 6

AIR OR CHEMICAL DIFFUSER
QUICK DISCONNECT HIGH PRESSURE AIR OR FLUSHING
BATCHMETER
AIR VENT
BLOWER
CALIBRATION COLUMN
COMPRESSOR/TURBINE
COMPRESSOR: RECIPROCATING
DIAPHRAGM SEAL
DRAIN
EJECTOR OR EDUCTOR
ELECTRIC MOTOR
EQUIPMENT DRAIN
EXPANSION JOINT, FLEXIBLE VIBRATION JOINT
FAN: EXHAUST/SUPPLY
FILTER
FIRE HYDRANT
FLAME ARRESTER
FLAME ARRESTER WITH THERMALLY OPERATED VALVE
FLOOR DRAIN
GAUGE: PRESSURE
GAUGE: DIFFERENTIAL PRESSURE
GRINDER
MIXER
OIL OR MOISTURE TRAP
PRIMARY LEVEL ELEMENT: BUBBLER
PRIMARY LEVEL ELEMENT: FLOAT SWITCH
PRIMARY LEVEL ELEMENT: PROBE
PRIMARY LEVEL ELEMENT: ULTRASONIC

G020 TYP PIPING SYMBOLS SHEET 1 OF 3

PRIMARY FLOW ELEMENT: FLUME
PRIMARY FLOW ELEMENT: X = C – CORIOLOS X = M – MAGNETIC X = P – PROPELLER X = PT – PITOT TUBE X = R – ROTAMETER X = T – TURBINE X = TH – THERMAL X = U – ULTRASONIC X = D – DENSITY
PRIMARY FLOW ELEMENT: ORIFICE PLATE
PRIMARY FLOW ELEMENT: VENTURI TUBE
PRIMARY FLOW ELEMENT: WEIR
PULSATION DAMPENER
PUMP: CENTRIFUGAL
PUMP: DIAPHRAGM
PUMP: METERING
PUMP: PLUNGER
PUMP: PROGRESSIVE CAVITY
PUMP: RECIPROCATING
PUMP: ROTARY
PUMP: SCREW
PUMP: SUBMERSIBLE
PUMP: VERTICAL LIFT
REDUCER: CONCENTRIC
REDUCER: ECCENTRIC
ROTARY CHEMICAL FEEDER
RUPTURE DISK
SAMPLE PORT
SIGHT GLASS
SLIDE GATE
SLUICE GATE
STRAINER: WYE TYPE
STRAINER: WYE TYPE WITH BLOWOFF
THERMOMETER

G020 TYP PIPING SYMBOLS SHEET 2 OF 3

VALVE: ANGLE
VALVE: AIR RELIEF
VALVE: BALL
VALVE: BALL CHECK
VALVE: BUTTERFLY
VALVE: CONE
VALVE: DIAPHRAGM
VALVE: FLAPPER CHECK
VALVE: FOUR WAY
VALVE: GATE
VALVE: GLOBE
VALVE: HOSE
VALVE: NEEDLE
VALVE: PINCH
VALVE: PLUG CONCENTRIC
VALVE: PLUG ECCENTRIC
VALVE: PRESSURE RELIEF PRESSURE-REDUCING REGULATOR
VALVE: SWING CHECK
VALVE: TELESCOPING
VALVE: THREE WAY AIR OPERATED
VALVE: THREE WAY MOTOR OPERATED
VALVE: THREE WAY SOLENOID OPERATED
VALVE: VACUUM
BACKPRESSURE REGULATOR SELF-CONTAINED
BACKPRESSURE REGULATOR W/EXTERNAL PRESSURE TAP
PRESSURE-REDUCING REGULATOR: SELF CONTAINED
PRESSURE-REDUCING REGULATOR W/EXTERNAL PRESSURE TAP

G020 TYP PIPING SYMBOLS SHEET 3 OF 3

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, GREGORY P. HERWIT, No. M28326, Exp. 6/30/27, MECHANICAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, GREGORY A. GARRIS, No. 45712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

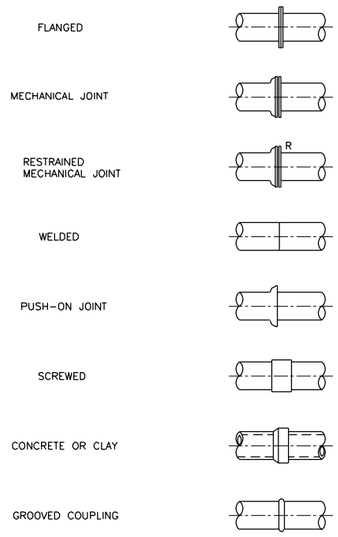
CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
TYPICAL
TYPICAL DETAILS

VERIFY SCALES
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0 — 1"
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DRAWING SET No. 2025-208
DRAWING NO. T-01
SHEET NO. 2 OF 27

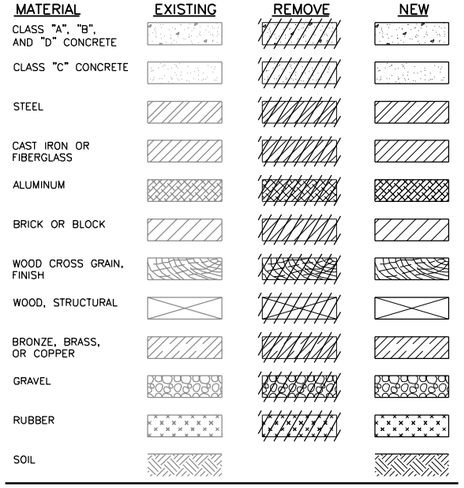
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TYPE OF JOINT — THREE LINE PIPE

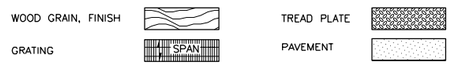


G022 TYP — PIPE JOINT SYMBOLS

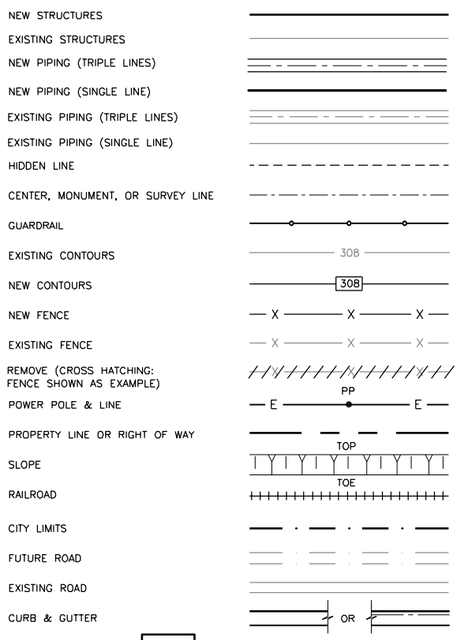
VIEW IN SECTION



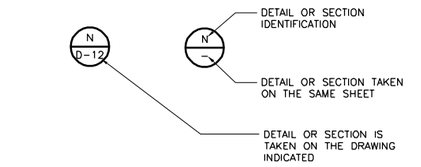
VIEW IN PLAN (NEW SHOWN – EXISTING SCREENED)



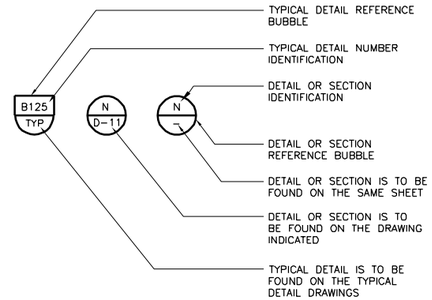
G030 TYP — BUILDING MATERIALS LEGEND



G032 TYP — LINE WORK



AT TITLE



AT CROSS REFERENCE

G034 TYP — DRAWING CROSS REFERENCE

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

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PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — KURT A. GARDNER — No. 45712 — Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

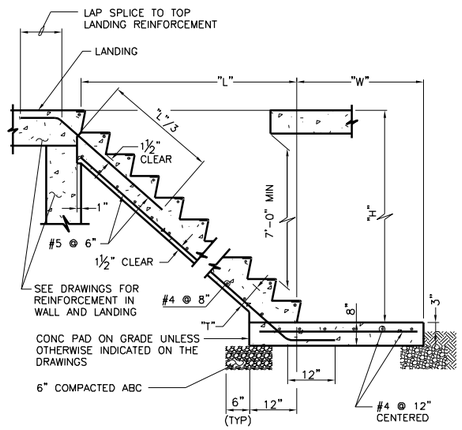
TYPICAL

TYPICAL DETAILS

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DRAWING SET No. 2025-208
DRAWING NO. T-02
SHEET NO. 3 OF 27

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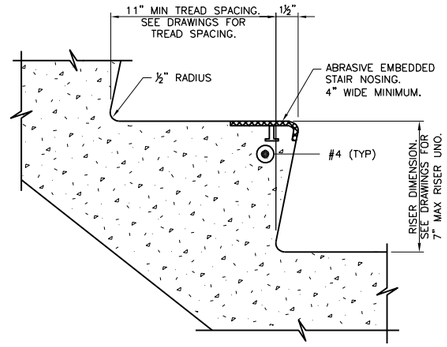


SPAN "L"	"T"
0' TO 8'	6"
GREATER THAN 8' TO 10'	8"
GREATER THAN 10' TO 12'	12"
GREATER THAN 12' TO 14'	16"

NOTES:

1. SEE DRAWINGS FOR DIMENSIONS "H", "L", AND STAIR WIDTH "W".
2. ALL STAIRS SHALL HAVE HANDRAILS ON EACH SIDE.

A204 TYP CONCRETE STAIR

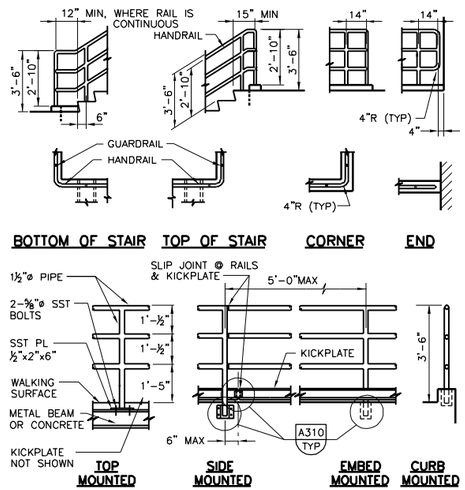


NOTE:
1. ANY FASTENERS IN THE STAIR NOSING SHALL BE TYPE 304 OR 316 SST.

A206 TYP CONCRETE STEP

1. PLACE CENTER OF EMBEDDED POSTS 4" FROM EDGE OF CONCRETE OR 6" FROM EDGE OF CONCRETE STAIR NOSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. PLACE RAIL POSTS OPPOSITE EACH OTHER WHERE GUARDRAILS ARE PARALLEL.
3. COAT ALL SURFACES OF ALUMINUM THAT COME IN CONTACT WITH CONCRETE IN ACCORDANCE WITH SPECIFICATIONS. PLACE NEOPRENE GASKET BETWEEN ALUM AND STEEL.
4. PROVIDE SLIP JOINTS AT 24' MAX CENTERS FOR EXPANSION OF RAILS AND KICKPLATE. LOCATE RAIL SLIP JOINTS AT FACE OF POST. GAP AT TIME OF INSTALLATION SHALL BE BASED ON TEMPERATURE OF HANDRAIL (⅜" GAP AT 25°F, 0" GAP AT 100°F). AT CONCRETE EXPANSION JOINTS, PROVIDE MINIMUM OF 1" GAP IN SLIP JOINTS BUT NOT LESS THAN WITH OF CONCRETE EXPANSION JOINT. INSERT SLEEVES SHALL BE LONG ENOUGH TO ALLOW FOR FULL RANGE OF MOVEMENT.
5. PROVIDE KICKPLATE AT ALL LOCATIONS EXCEPT SLOPING GUARDRAIL ON STAIRS. KICKPLATE MAY BE EXTRUDED OR BENT PLATE AND SHALL BE ATTACHED WITH SST BOLTS IN 3/16" X ¾" SLOTTED HOLES. BOLT KICKPLATE TO POST WITH BOTTOM ¼" CLEAR FROM SURFACE. FOR SIDE MOUNTED HANDRAIL, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN ¼" MAX CLEAR SPACING. HAND TIGHTEN AND CENTER PUNCH BOLT TO LOCK. SPLICES SHALL ACCOMMODATE TEMPERATURE EXPANSION PER NOTE 4. OMIT KICKPLATE WHERE HANDRAIL IS MOUNTED ON 6" MIN HIGH CURB.
6. ALL GUARDRAILS SHALL BE FIXED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
7. HANDRAILS ALONG WALLS SHALL BE SINGLE RAIL WITH TOP OF RAIL AT 2'-10" HEIGHT ABOVE LANDINGS OR TREAD NOSINGS, OR TO MATCH TOP RAIL ON OPPOSITE SIDE WHERE HANDRAIL IS INTEGRAL WITH TOP TOP OF GUARDRAIL.
8. ALL JOINTS FOR STAINLESS STEEL HANDRAIL AND GUARDRAIL SHALL BE COPED, WELDED, AND GROUND SMOOTH.
9. FOR RAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURERS REINFORCED CONNECTION FROM POST TO PLATE. PLATE AND REINFORCED INSERTS SHALL BE ALUMINUM OR STAINLESS STEEL.
10. MATERIAL FOR SLIP JOINT PLATE AND KICKPLATE CHANNEL SHALL BE OF THE SAME MATERIAL AS THE GUARDRAIL.
11. SEE DRAWINGS OR SPECIFICATIONS FOR GUARDRAIL MATERIAL TYPE(S).

A301 TYP GUARDRAIL NOTES

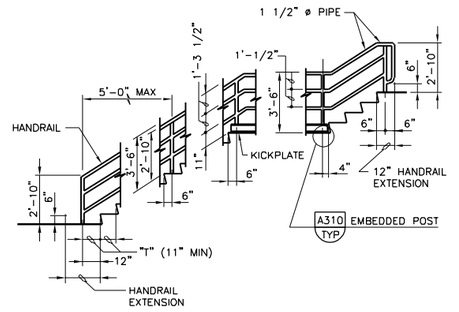


GUARDRAIL ELEVATION

NOTES:

1. THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS WHERE OPERATOR ONLY ACCESSIBILITY IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
2. SEE SPECIFICATIONS AND TYPICAL DETAIL A301 FOR ADDITIONAL REQUIREMENTS.
3. VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS FOR SPECIFIC MOUNTING REQUIREMENTS.

A305 TYP THREE RAIL GUARDRAIL SHEET 1 OF 3

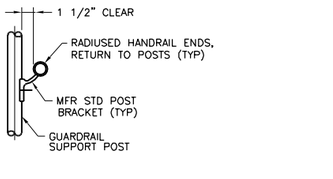


STAIR GUARDRAIL ELEVATION

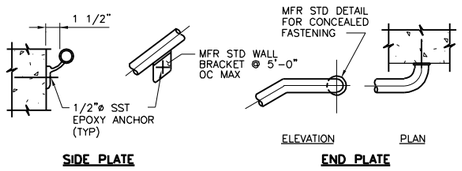
NOTES:

1. HANDRAIL SHALL BE PROVIDED @ EVERY STAIRWAY HAVING TWO OR MORE RISERS. WHERE HANDRAILS ARE REQUIRED, THEY SHALL BE PROVIDED @ BOTH SIDES OF STAIRS.
2. WHERE THIS DETAIL IS APPLICABLE, STAIR RISERS SHALL HAVE CLOSED FACES. SEE STAIR TREAD AND RISER DETAILS.

A305 TYP THREE RAIL GUARDRAIL SHEET 2 OF 3



POST BRACKET

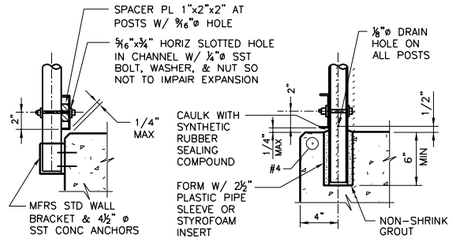


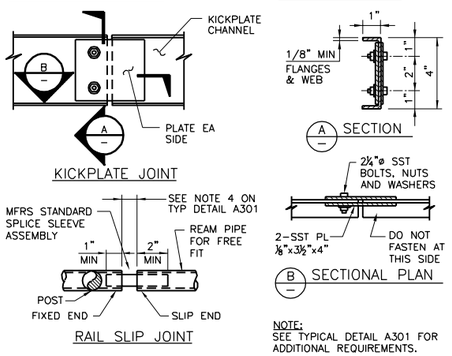
SINGLE RAIL BRACKETS

NOTES:

1. SINGLE RAIL HANDRAIL @ WALLS SHALL MATCH PROFILE SHOWN FOR GUARDRAIL MOUNTED HANDRAIL.

A305 TYP THREE RAIL GUARDRAIL SHEET 3 OF 3





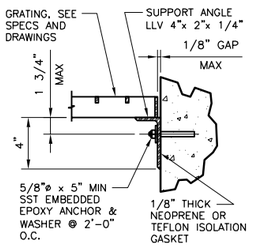
NOTE:
SEE TYPICAL DETAIL A301 FOR ADDITIONAL REQUIREMENTS.

A310 TYP GUARDRAIL DETAILS

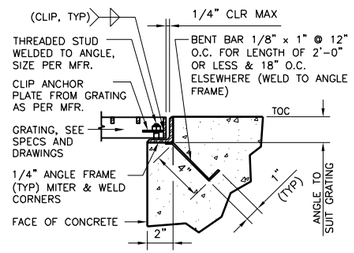
MATERIALS					
GRATING MATERIAL	SUPPORT ANGLE	FRAME ANGLE	BENT BAR	GRATING CLIPS & STUDS	ADHESIVE ANCHORS
ALUMINUM	TYPE 304 SS	TYPE 304 SS	TYPE 304 SS	ALUMINUM	TYPE 316 SS
GALVANIZED STEEL	GALVANIZED STEEL	GALVANIZED STEEL	GALVANIZED STEEL	GALVANIZED STEEL	ASTM F1554 GR6, GALV
STAINLESS STEEL	TYPE 304 SS	TYPE 304 SS	TYPE 304 SS	TYPE 316 SS	TYPE 316 SS

NOTES:

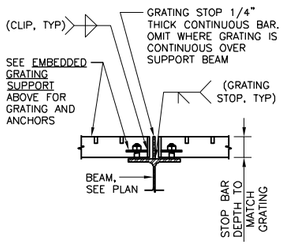
1. GRATING DEPTH PER SPECIFICATIONS AND APPROVED BY ENGINEER (U.N.O.).
2. ALL ENDS AND OPENING SHALL BE BANDED.
3. WEIGHT OF GRATING SECTION SHALL NOT EXCEED 60 LBS.
4. PROVIDE A MINIMUM OF (4) CLIPS PER GRATING PANEL, APPROXIMATELY 4" FROM PANEL CORNERS. MAXIMUM CLIP SPACING AT 36" O.C.
5. MATERIALS PER TABLE ABOVE.
6. ALL GALVANIZED MATERIAL TO BE GALVANIZED AFTER FABRICATION. ANY FIELD WELDING OR CUTTING MUST BE TOUCHED UP WITH HIGH ZINC-DUST CONTENT PAINT COMPLYING WITH MIL-P-21035.
7. ALUMINUM IN CONTACT WITH DISSIMILAR MATERIALS SHALL BE COATED PER SPECIFICATIONS.
8. NOT ALL MATERIAL TYPES MAY BE USED ON A SINGLE PROJECT.
9. PROVIDE ANGLE FRAME OR SUPPORT ANGLES AT ALL SIDES OF OPENINGS (U.N.O.).



SIDE MOUNTED GRATING SUPPORT



EMBEDDED GRATING SUPPORT



BEAM MOUNTED GRATING

A403 TYP GRATING

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, GREGORY P. HERWIT, M28326, Exp. 6/30/27, MECHANICAL, STATE OF CALIFORNIA

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HERWIT ENGINEERING

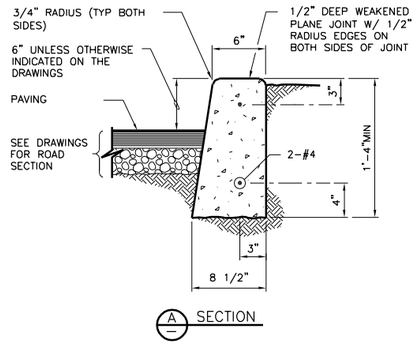
YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
TYPICAL
TYPICAL DETAILS

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. T-03
SHEET NO. 4 OF 27

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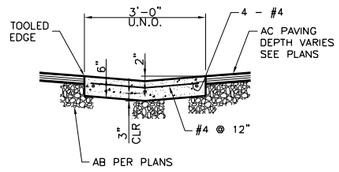


A SECTION

NOTES:

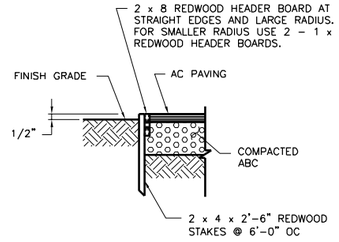
1. CURB SHALL BE FINISHED ON TOP, 8" DOWN FRONT FACE, AND 2" DOWN BACK.
2. EXPANSION JOINTS SHALL BE PLACED AT END OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, BOTH SIDES OF DRIVEWAYS AND WALKWAYS, CURB RETURNS, STRUCTURES, AND AT MAXIMUM DISTANCE OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" THICK W/ 1/4" RADIUS EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS EXPANSION JOINT MATERIAL.
3. REINFORCING STEEL SHALL NOT PASS THROUGH EXPANSION JOINTS.
4. WEAKENED PLANE JOINTS SHALL BE INSTALLED AT 15 FEET OC.
5. CURB SHALL BE DEPRESSED FOR DRIVEWAYS, ROADWAYS, SIDEWALKS FOR HANDICAPPED ACCESS, AND WHERE INDICATED ON THE DRAWINGS.

C104 TYP YARD CURBING



SECTION

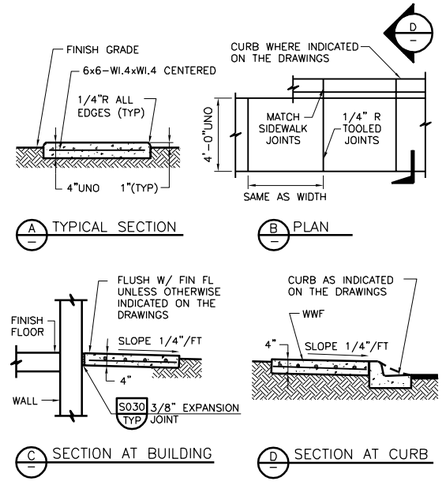
C109 TYP CONCRETE VALLEY GUTTER



NOTE:

1. HEADER BOARDS AND STAKES SHALL BE ALL HEART REDWOOD.

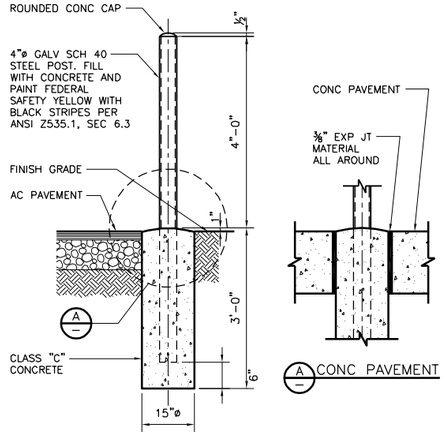
C110 TYP REDWOOD HEADER



NOTES:

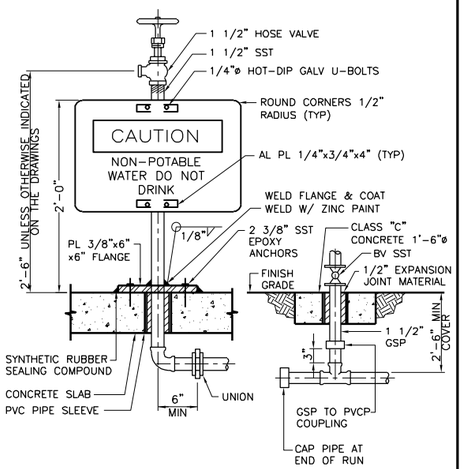
1. EXPANSION JOINTS SHALL BE INSTALLED AT END OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, AT STRUCTURES, AND AT MAXIMUM DISTANCE NOT TO EXCEED 100 FEET. EXPANSION JOINTS SHALL BE 3/4" THICK. TOOL EDGES 1/4" RADIUS.
2. CONTRACTION JOINTS SHALL BE INSTALLED AT A MAXIMUM SPACING OF 8 FEET.
3. ELEVATIONS SHALL BE AS INDICATED ON THE DRAWINGS.

C120 TYP SIDEWALK



AC PAVEMENT AND FINISH GRADE

C132 TYP GUARD POST

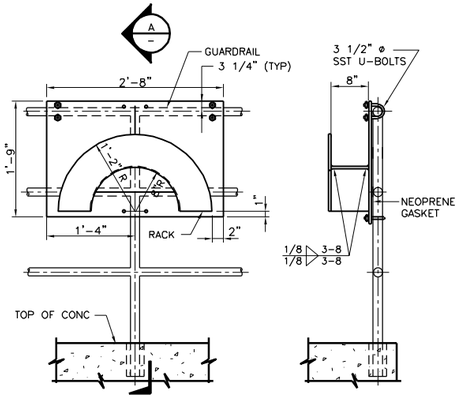


STRUCTURE INSTALLATION YARD INSTALLATION

NOTES:

1. SIGN SHALL BE 7"x10"x3/8" PLASTIC RESISTANT TO SUNLIGHT (ULTRAVIOLET) DETERIORATION PER THE SPECIFICATIONS.
2. SIGN IS SHOWN ROTATED 90° FROM TRUE POSITION. SIGN SHALL BE MOUNTED TO PERMIT UNOBSTRUCTED VIEWING.
3. INSTALL HOSE RACK PER TYPICAL DETAIL M168 AT EACH HOSE VALVE.
4. PAINT VALVE & EXPOSED PIPE PER OWNERS STANDARDS AFTER INSTALLATION.

M162 TYP 1"-1 1/2" HOSE VALVE AND SIGN



NOTE;

1. GUARDRAIL INSTALLATION SHOWN.

NOTES:

1. HOSE RACK SHALL BE FABRICATED FROM 3/16" ALUMINUM PLATE. ROUND ALL EDGES SMOOTH.
2. HOSE RACKS INSTALLED IN YARD LOCATIONS SHALL BE MOUNTED ON POST. THE POST SHALL BE TS 3x3x0.1875 x 4'-0" ST. STL. AND SHALL BE SET IN CONCRETE 18" ø x 18" DEEP. WELD CAP ON TOP OF POST. POSTS MOUNTED TO MIN 12" CONCRETE SLAB SHALL HAVE 12" SQ ½" THK BASE PLATE WITH 4-5/8" ST. STL. EPOXY ANCHORS.
3. HOSE RACKS INSTALLED IN STRUCTURES SHALL BE WALL MOUNTED. FASTEN RACK TO WALL WITH 2-5/8" ø SST EPOXY ANCHORS. FOR MASONRY WALLS, FASTEN TO GROUTED CELLS.

M168 TYP HOSE RACK

REV.	DATE	BY	DESCRIPTION

FILENAME:

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CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — GREGORY P. HARRIS — M28526 — 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — KURT A. GARDNER — C85745712 — 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

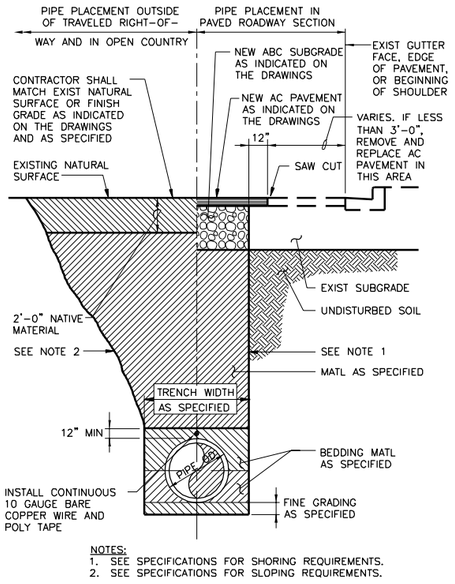
YUBA CITY

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0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

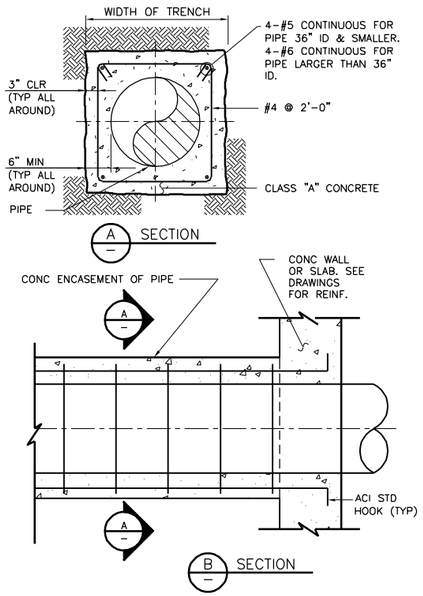
DRAWING SET No. 2025-208
DRAWING NO. T-04
SHEET NO. 5 OF 27

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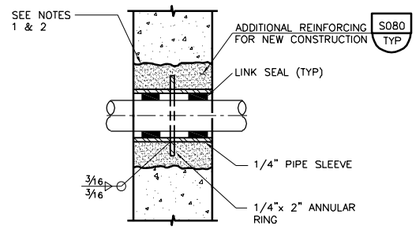


NOTES:
1. SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
2. SEE SPECIFICATIONS FOR SLOPING REQUIREMENTS.

P002 TYP — PIPE INSTALLATION AND PAVEMENT REPLACEMENT

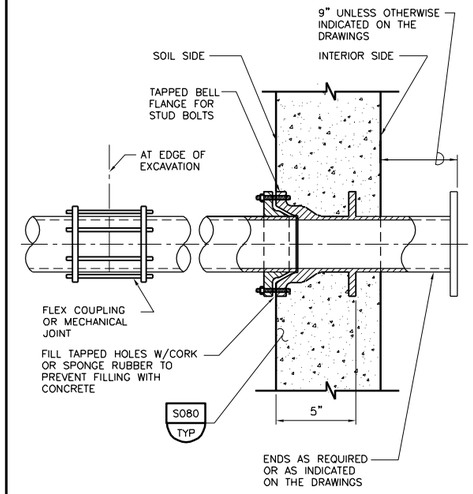


P050 TYP — CONCRETE ENCASEMENT OF PIPE

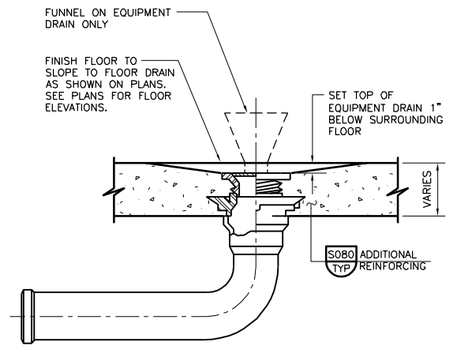


NOTES:
1. FOR EXISTING WALLS, CHIP OUT OPENING AS REQ'D, CUT MINIMUM REBAR REQ'D FOR WALL SLEEVE, COAT CONCRETE SURFACE WITH EPOXY BONDING AGENT AND GROUT IN SLEEVE WITH NON-SHRINK GROUT.
2. FOR NEW CONSTRUCTION, SLEEVES SHALL BE CAST INTO WALL. BLOCKOUTS AND SUBSEQUENT GROUTING IN OF SLEEVES WILL NOT BE PERMITTED UNLESS A KEYED WATERSTOP JOINT IS PROVIDED.
3. IN WALLS THICKER THAN 12" LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF WALL SLEEVE. SLEEVE DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION. SUPPORT PIPE INDEPENDENTLY WHILE INSTALLING PIPE AND LINK SEAL.
4. SEE SPECIFICATIONS FOR SLEEVE WALL THICKNESS.
5. SLEEVES SHALL BE 304 ST. STL. FOR ≥ 24" PIPE SLEEVES CAN BE HDPE FOR < 24" PIPE.

P204 TYP — WALL SLEEVE

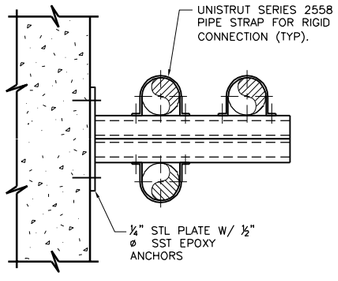


P210 TYP — STANDARD WALL PIPE



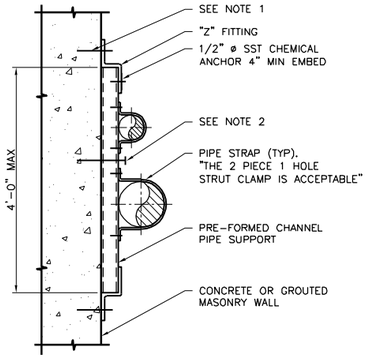
NOTE:
1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

P268 TYP — FLOOR DRAIN OR EQUIPMENT S DRAIN



NOTES:
1. ALL MATERIAL SHALL BE 304 ST. STL.

P529 TYP — UNISTRUT PIPE SUPPORT



NOTES:
1. 1/2" ø SST EPOXY ANCHORS IF MOUNTED ON WALL OR FLOOR. IF MOUNTED ON CEILING USE CONCRETE INSERTS OR ANCHOR BOLTS ONLY.
2. FOR SUPPORT LENGTH GREATER THAN 2'-0" PROVIDE ADDITIONAL SST EPOXY ANCHOR.
3. MAXIMUM PIPE SIZE 4".
4. SPACE FLUSH MOUNT PIPE SUPPORTS AT 5'-0" MAXIMUM OR AS OTHERWISE INDICATED ON THE DRAWINGS.
5. ALL MATERIAL SHALL BE 304 ST. STL.

P540 TYP — FLUSH MOUNT PIPE SUPPORT

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — GREGORY P. HERWIT — No. M28326 — Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — KURT A. GAUTHIER — No. C045712 — Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
TYPICAL
TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. T-05
SHEET NO. 6 OF 27

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CODE:
2025 CALIFORNIA BUILDING CODE
CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 350-06) AND COMMENTARY (ACI 350R-06) PROVIDE SPECIAL INSPECTION IN ACCORDANCE WITH THE 2019 CALIFORNIA BUILDING CODE CHAPTER 17 AND THE PROJECT SPECIFICATIONS FOR THE FOLLOWING ITEMS:

1. REINFORCED CONCRETE.
2. HIGH STRENGTH BOLTS.
3. ANCHOR BOLTS INSTALLED IN CONCRETE.
4. STRUCTURAL WELDING.
5. MASONRY CONSTRUCTION.
6. POST - INSTALLED EPOXY ADHESIVE ALL-THREAD RODS AND REINFORCEMENT.
7. CONCRETE POST - INSTALLED EXPANSION ANCHORS.

CONCRETE REQUIREMENTS:
MINIMUM 28 DAY COMPRESSIVE STRENGTH - 4000 PSI

REINFORCING BAR REQUIREMENTS:
ALL REINFORCING SHALL CONFORM TO ASTM A615 GRADE 60

STEEL REQUIREMENTS:
1. STRUCTURAL STEEL
PLATES, BARS, ROLLED SHAPES (EXCEPT W AND WT SHAPES), AND MISCELLANEOUS ITEMS USE ASTM A36. ROLLED W AND WT SHAPES USE ASTM A992 GRADE 50. HOLLOW STRUCTURAL SECTIONS (HSS): ROUND, SQUARE OR RECTANGULAR USE ASTM A500 GRADE B. STEEL PIPE USE ASTM A53 GRADE B.
2. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325.
3. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE TYPE 316 STAINLESS STEEL OR HOT-DIP GALVANIZED CONFORMING TO ASTM A307 OR A36, AS INDICATED ON THE DRAWINGS.

SEISMIC DESIGN REQUIREMENTS:

SEISMIC COEFFICIENTS	Ss	=	0.62g
	S1	=	0.23g
	Sms	=	0.91
	Sm1	=	0.6
	Sds	=	0.61g
	Sd1	=	0.4g
SITE CLASS		=	D
SEISMIC DESIGN CATEGORY		=	D
OCCUPANCY CATEGORY		=	IV
BUILDING STRUCTURAL SYSTEM			
RESPONSE MODIFICATION FACTOR	R	=	PER ASCE 7-10 CHAPTER 12 SECTION 12.2.3.1 TABLE 12.2-1
IMPORTANCE FACTOR	I	=	1.5

S001 TYP — STRUCTURAL NOTES FOR CBC
SHEET 1 OF 2

COMPONENT

FACTOR FOR FORCE AMPLIFICATION	H_f	=
IMPORTANCE FACTOR	IP	=
STRUCTURE DUCTILITY REDUCTION FACTOR	$R_{\mu 1}$	=
COMPONENT RESONANCE DUCTILITY FACTOR	C_{AR}	=
OVERSTRENGTH FACTOR	Ω_0	=
COMPONENT STRENGTH FACTOR	R_{PO}	=

PER ASCE 7-22 CHAPTER 13, SECTION 13.3 AND 13.6, TABLES 13.5-1 & 13.6-1

Cs (EQUIVALENT LATERAL FORCE PROCEDURE) = N.A.

WIND DESIGN REQUIREMENTS:
BASIC WIND SPEED = V=104 MPH
EXPOSURE CATEGORY = C
RISK CATEGORY III
SNOW LOAD Pg = N.A.
FLOOD HAZARD AREA = AREA NOT INCLUDED
GEOTECHNICAL REPORT:
SEE 2025 CBC CHAPTER 18 TABLE 1806.2 ALLOWABLE BEARING PRESSURE =1500 PSF

S001 TYP — STRUCTURAL NOTES FOR CBC
SHEET 2 OF 2

1. CONCRETE CONSTRUCTION SHALL COMPLY WITH ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 350-06) AND COMMENTARY (ACI 350R-06).
2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE:
10" THICK OR LESS - USE #5 @ 12" EW
MORE THAN 10" THICK - USE #5 @ 12" EWEF
3. WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, APSPLICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. LAP SPLICES SHALL CONFORM WITH NOTE 12.
4. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPLICED TO THE DOWELS.
5. SLABS, BEAMS, AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
6. STIRRUP SUPPORT BARS SHALL BE PROVIDED TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
7. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINF BARS SHALL BE AS FOLLOWS:

A. SLABS AND JOISTS:
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS:
#7 BARS AND SMALLER.....1"
#8 BARS AND LARGER.....1 1/2"
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR WATER, OR LOCATED OVER WATER.....2"

B. BEAMS AND COLUMNS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
STIRRUPS, SPIRALS, AND TIES.....1 1/2"
PRINCIPAL REINFORCEMENT.....2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR WATER, OR BEAMS LOCATED OVER WATER:
STIRRUPS AND TIES.....2"
PRINCIPAL REINFORCEMENT.....2 1/2"

C. WALLS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
#7 BARS AND SMALLER.....1"
#8 BARS AND LARGER.....1 1/2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR WATER.....2

S002 TYP — REINFORCED CONCRETE NOTES
SHEET 1 OF 3

D. FOOTINGS AND BASE SLABS:
FORMED VERTICAL CONCRETE SURFACES.....2"
AT UNFORMED CONCRETE SURFACES CAST AGAINST THE SOIL OR CONCRETE WORK MATS.....3"
TOP SURFACE OF FOOTINGS AND BASE SLABS.....SAME AS SLABS.

8. KEYWAYS AND WATERSTOP SHALL END 3" BELOW THE TOP OF WALLS, UNLESS THERE IS A SLAB ON TOP OF THE WALL, IN WHICH CASE IT SHALL END AT THE BOTTOM OF THE SLAB. IN JOINTS WHERE WATERSTOP TERMINATES AT ADJOINING SLAB OR WALL, WATERSTOP SHALL BE EMBEDDED IN ADJOINING SLAB OR WALL A MINIMUM OF 6".
9. CONCRETE CURING SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS REQUIRED, MEMBRANE CURING IS NOT ALLOWED. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS THE CONTRACTOR SHALL STUDY REQUIREMENTS AND SHALL FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED. TOP OF WALLS SHALL BE KEPT VISIBLY MOIST AT ALL TIMES AND SHALL BE FLOODED NOT LESS THAN THREE TIMES DAILY.
10. WATERSTOP SHALL BE PLACED IN CONSTRUCTION, AND EXPANSION JOINTS IN WATERBEARING SLABS AND WALLS UNLESS OTHERWISE INDICATED ON THE DRAWINGS, AND IN WALLS AND SLABS SUBJECTED TO GROUNDWATER. WATERSTOP IN THE WALLS SHALL BE CARRIED INTO SLABS AND SHALL BE SPLICED WITH THE WATERSTOP IN THE SLABS.
11. NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL:
A. WALLS HAVE BEEN CAST FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE SPECIFIED STRENGTH.
B. AND THE CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND HAVE REACHED THE SPECIFIED STRENGTH.
12. LAP SPLICES:
A. WHEN MULTIPLE BARS ARE SPLICED AT THE SAME SECTION, THE CLEAR BAR SPACING IS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPLICE LENGTH LESS ONE BAR DIAMETER.
B. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
C. FOLLOWING TABULATED VALUES ARE CALCULATED FOR:
FY = 60,000 PSI FOR REINFORCING BARS
F'C = 4,000 PSI FOR CONCRETE
D. TOP BARS ARE HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
E. HORIZONTAL BARS IN CIRCULAR WALLS OF HYDRAULIC STRUCTURES SHALL BE SPLICED WITH TOP BAR LAP SPLICES. ADJACENT LAP SPLICES SHALL BE STAGGERED HORIZONTALLY BY NOT LESS THAN ONE LAP LENGTH NOR 3 FEET FROM CENTER OF LAP BELOW TO ADJACENT CENTER OF LAP ABOVE, AND SHALL NOT COINCIDE IN VERTICAL ARRAYS MORE FREQUENTLY THAN EVERY THIRD BAR.

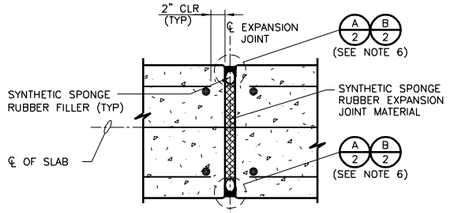
S002 TYP — REINFORCED CONCRETE NOTES
SHEET 2 OF 3

REINFORCING BAR LAP SPLICE

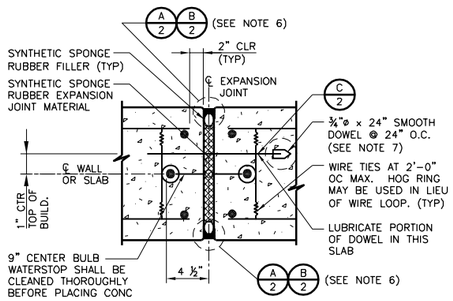
BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM BAR SPACING (BAR DIA)	LAP SPLICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	15
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

NOTES:
1. THE SPLICE LENGTH SHALL BE SELECTED ONLY WHEN BOTH REQUIREMENTS OF THE COVER AND BAR SPACING ARE SATISFIED.
2. * IF THE CLEAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS OR THE CLEAR COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

S002 TYP — REINFORCED CONCRETE NOTES
SHEET 3 OF 3

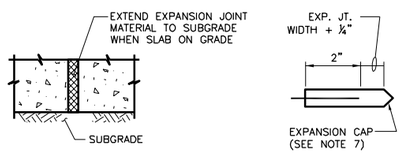


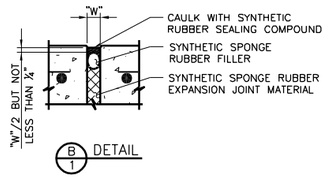
NON-WATER BEARING SLAB OR WALL



WATER BEARING SLAB OR WALL

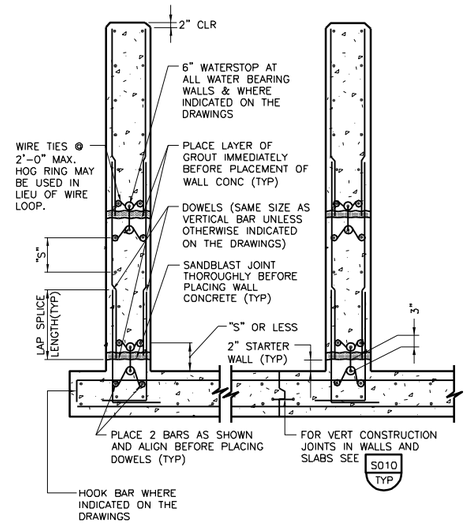
S030 TYP — EXPANSION JOINT
SHEET 1 OF 2





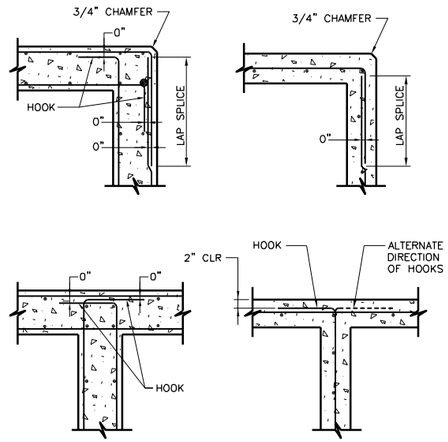
NOTES:
1. SLABS ON GRADE SHALL BE THICKENED AT JOINT PER TYPICAL DETAIL S010.
2. FOR WALLS, FORM ALL JOINT EDGES AT ½" CHAMFER.
3. FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT AT ¼" RADIUS
4. FOR UNDER SIDE OF EXPOSED SLABS, FORM BOTH JOINT EDGES AT ½" CHAMFER.
5. "W" = 1" THICK UNLESS OTHERWISE INDICATED ON THE DRAWINGS. MIN JOINT WIDTH = ⅜".
6. USE A 1 AT UNDERSIDE OF SLABS ON GRADE ONLY.
USE B 1 AT ALL OTHER LOCATIONS.
7. PROVIDE DOWELS ONLY WHEN INDICATED ON PLANS.

S030 TYP — EXPANSION JOINT
SHEET 2 OF 2



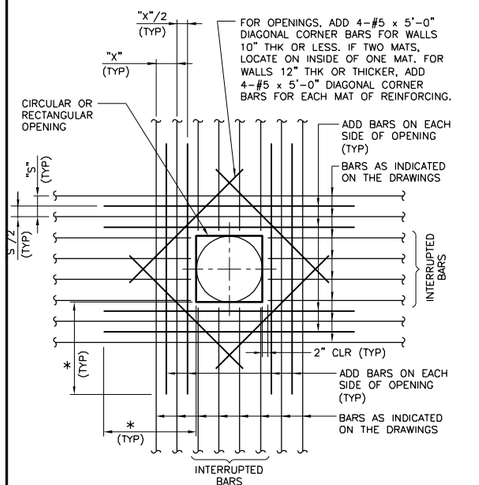
NOTE:
1. "S" = BAR SPACING INDICATED ON THE DRAWINGS.

S042 TYP — WALL AND SLAB JOINTS WITH WATERSTOP



NOTE:
1. ALL HOOKS SHALL BE ACI STD 90 DEGREE HOOKS.

S044 TYP — REINFORCEMENT AT CORNERS AND JUNCTIONS



NOTES:
1. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL MATCH 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
2. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION, PAST THE OPENING, CANNOT BE ACHIEVED.
3. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
4. PLACE #5 DIAGONAL BARS UNDER INTERRUPTED REINFORCING.
5. * DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD BARS PLUS LAP SPLICE LENGTH.

S080 TYP — ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, KEVIN A. GARRIS, No. M28326, Exp. 6/30/27, MECHANICAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, GARY P. HOWARD, No. 45712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

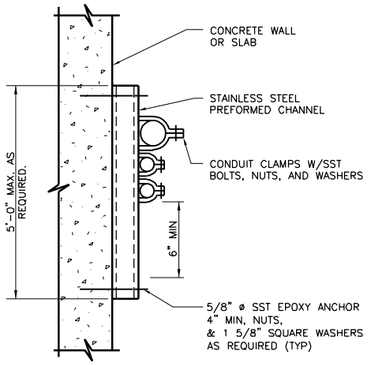
YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
TYPICAL
TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. T-06
SHEET NO. 7 OF 27

Last Saved: 4-30-26 10:55am \\H-200\herwit\City of Yuba City\Septage Receiving Station\Drawings\Working\YYC-sept-T-01-07 4-30-26 11:26am ivonne : X-YC-sept-BDR Yuba City Logo.jpg

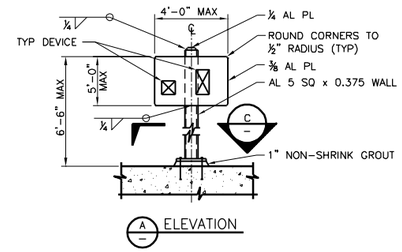


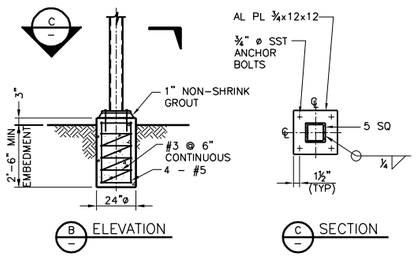
ELEVATION

NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE 304 ST. STL.
3. CHANNELS TO BE SPACED AT 5'-0" OC MAXIMUM.

E304 TYP CONDUIT SUPPORT

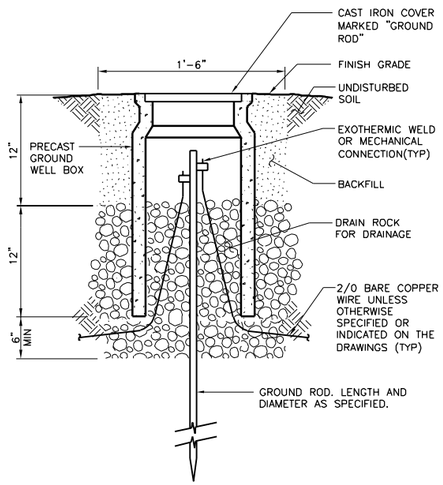




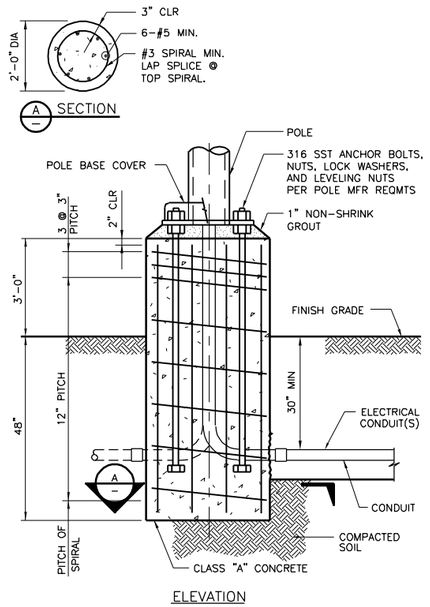
NOTES:

1. WHERE SEPARATE FOUNDATION IS REQD, SEE (B).
2. COAT ALUMINUM SURFACES IN CONTACT W/CONCRETE PER SPECS.
3. USE SST FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 300 POUNDS.

E332 TYP DEVICE SUPPORT AND MOUNTING



E410 TYP GROUND ROD INSTALLATION



ELEVATION

E512 TYP AREA LIGHTING POLE MOUNTING

\\H-200s\herwit\City of Yuba City\Septage Receiving Station\Drawings\Working\HYC-sept-T-01-07 4-30-26 11:26am ivonna
Last Saved: 4-30-26 10:55am ivonna

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER GREGORY P. HERRIG M28326 Exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER KURT A. GARDNER 45712 Exp. 12/31/26 CIVIL STATE OF CALIFORNIA

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YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

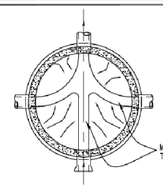
TYPICAL

TYPICAL DETAILS

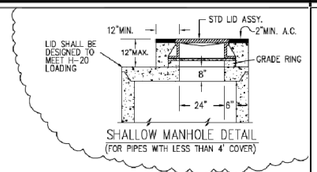
VERIFY SCALES
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DRAWING SET No. 2025-208
DRAWING NO. T-07
SHEET NO. 8 OF 27

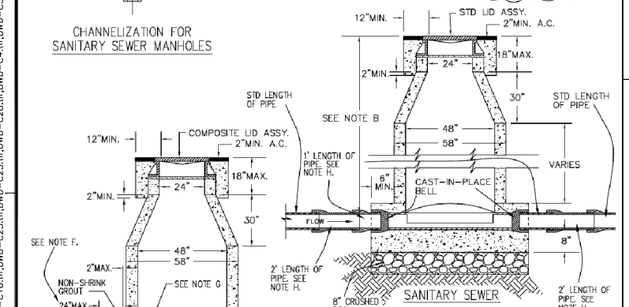
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CHANNELIZATION FOR SANITARY SEWER MANHOLES



SHALLOW MANHOLE DETAIL
(FOR PIPES WITH LESS THAN 4' COVER)



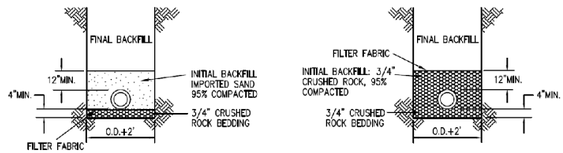
NOTES:
A. PRIOR TO BACKFILLING, THE CONTRACTOR SHALL VACUUM TEST ALL MANHOLES TO ENSURE NO LEAKAGE WILL OCCUR. SEE REQUIREMENTS IN CITY SPECIAL PROVISIONS.
B. FOR PIPES WITH LESS THAN 4' COVER USE THE SHALLOW MANHOLE DETAIL.
C. INSIDE DROP RECOTD IF INVERT OF PIPE IS 4' OR MORE ABOVE FLOWLINE.
D. THE CITY MAY REQUIRE THE CONTRACTOR TO HYDROFLUSH THE SEWER LINES IF ANY CONSTRUCTION DEBRIS IS FOUND IN THE LINES.
E. SEE CITY DETAIL TR5 FOR BEDDING & BACKFILL REQUIREMENTS.
F. USE SCH 80 SOLVENT WELDED PVC FOR INSIDE DROP AND FOR EXTENSION COMING OUT OF MANHOLE. CONNECT TO CITY SPECIFIED MATERIAL AT SEWER LATERAL WITH BELL AT 24" MAX FROM MANHOLE.
G. 6" x 8" x 8" TEE.
H. USE FACTORY PRODUCED PIPE.
I. INVERT OF 90 DEG EL 2" BELOW CROWN OF SEWER LINE. ROTATE 90 DEG EL 45 DEG IN DIRECTION OF FLOW.

ALL JOINTS & PICK POINTS SHALL BE SEALED WITH RAM-NEK OR A SIMILAR PRODUCT APPROVED BY THE CITY.

SANITARY SEWER MANHOLE
(FOR PIPES LESS THAN 30"Ø)

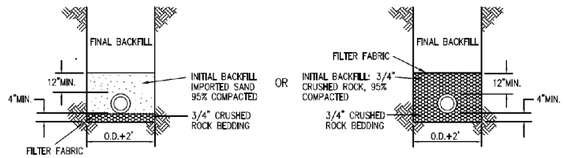
CITY OF YUBA CITY
STANDARD DETAIL
SS1
APPROVED DATE

DATE	REVISIONS	BY



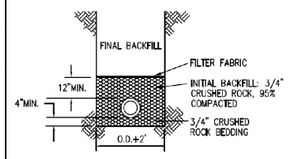
FOR PIPES LESS THAN 16" DIAMETER — FOR PIPES 16" DIAMETER AND GREATER

WATER



STORM DRAIN

FOR DEEP SEWER LINES THE BEDDING AND INITIAL BACKFILL SHALL BE A SPECIAL DESIGN AND APPROVED BY THE CITY ENGINEER.



SEWER

NOTES:
1. SEE DETAILS TR3, TR4, AND/OR TR5 FOR FINAL BACKFILL REQUIREMENTS AND TRENCH RESTORATION REQUIREMENTS.
2. WHERE FILTER FABRIC IS REQUIRED IT SHALL COVER THE ENTIRE SURFACE OF CRUSHED ROCK BACKFILL.
3. THE COMPACTION OF THE MATERIAL SHALL BE IN ACCORDANCE WITH CITY SPECIAL PROVISION "QUANTITIES AND MATERIALS".
4. FILTER FABRIC MAY NOT BE APPLICABLE TO CERTAIN TYPES OF CDF BACKFILL.
5. SAND MUST BE FREE OF CLAY OR ORGANIC MATERIAL. SEE TABLE FOR MORE REQUIREMENTS.
6. FILTER FABRIC MUST BE NONWOVEN, PERMEABLE, AND MEET CALTRANS STANDARDS.

SAND REQUIREMENTS	
SIEVE SIZE	PERCENTAGE PASSING
NO. 4	90-100
NO. 200	0-5

BEDDING & INITIAL BACKFILL

CITY OF YUBA CITY
STANDARD DETAIL
TR1
APPROVED DATE

7/9/17	NOTES 4, 5, 6, AND TABLE	JWF
DATE	REVISIONS	BY

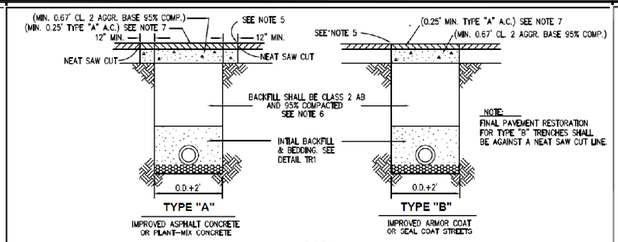
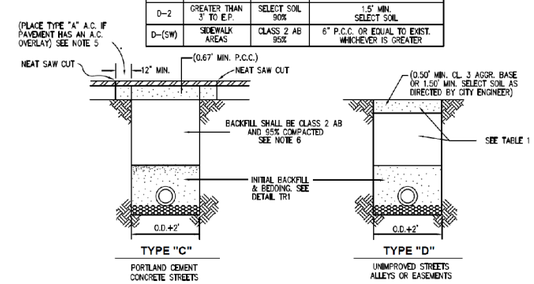


TABLE 1

TYPE	LOCATION	BACKFILL & COMP.	RESTORATION TYPE
D-1	WITHIN 3' E.P.	CLASS 2 AB 95%	6" CL. 3 A.B.
D-2	GREATER THAN 3' TO E.P.	SELECT SOIL 90%	1.5" MIN. SELECT SOIL
D-(SW)	SIDEWALK AREAS	CLASS 2 AB 95%	6" P.C.C. OR EQUAL TO EXIST. WHICHEVER IS GREATER

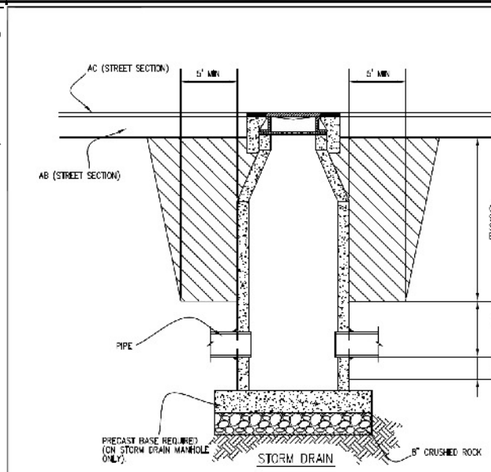


NOTES:
1. TYPE "A" & "C" TRENCHES REQUIRE (2) TWO CUTS; FIRST CUT INITIAL TRENCH WIDTH. THEN 30 DAYS AFTER WORK HAS BEEN COMPLETED IT SHALL BE SAW CUT A MINIMUM OF 12" WIDER BOTH SIDES.
2. TYPE "A" & "C" TRENCHES REQUIRE PLACEMENT AND MAINTENANCE OF TEMPORARY PAVEMENT (SC-800 COLD MIX), COMPACTED IN PLACE USING A VIBRATING ROLLER OR VIBROPLATE, FOR A MINIMUM OF 30 DAYS PRIOR TO PERMANENT PAVING.
3. STRUCTURAL THICKNESSES SHOWN ARE MINIMUM ALLOWABLE. INCREASED THICKNESS OF STRUCTURAL SECTIONS MAY BE REQUIRED BY CITY ENGINEER IF EXISTING STRUCTURAL SECTION EXCEEDS THESE MINIMUMS.
4. ALL TRENCH WORK 5' AND DEEPER SHALL HAVE APPROVED SHORING, ALL IN ACCORDANCE WITH CITY SPECIAL PROVISION "TRENCHING OPERATIONS".
5. PAVING SURFACE AT TRENCH JOINTS SHALL BE SEALED WITH ASPHALT EMULSION 4" EACH SIDE OF JOINT AFTER FINAL COMPACTION OF ASPHALT CONCRETE. SEALANT SHALL BE SANDED AS NECESSARY TO PREVENT TRAFFIC PICKUP.
6. THE COMPACTION OF THE MATERIAL SHALL BE IN ACCORDANCE WITH CITY SPECIAL PROVISIONS "QUANTITIES AND MATERIALS".
7. THICKNESS IS TO BE 0.25' MIN OR MATCH EXISTING, WHICHEVER IS GREATER.
8. PLACEMENT OF ASPHALT CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 39 OF THE CALTRANS STANDARD SPECIFICATIONS, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

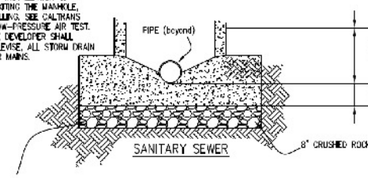
CLASS 2 AB - FINAL BACKFILL & TRENCH RESTORATION

CITY OF YUBA CITY
STANDARD DETAIL
TR3
APPROVED DATE

7/3/17	Spelling	JWF
DATE	REVISIONS	BY



NOTES:
1. ALL MANHOLES SHALL PASS A VACUUM TEST. TEST TO BE PERFORMED AFTER ASSEMBLY OF THE MANHOLE AND INSTALLATION OF THE PIPE ENTERING/EXITING THE MANHOLE, BUT PRIOR TO BACKFILLING. SEE CALTRANS REQUIREMENTS FOR LOW-PRESSURE AIR TEST.
2. PRIOR TO PAVING, THE DEVELOPER SHALL HYDROFLUSH, AND TELEVISE, ALL STORM DRAIN MAINS AND ALL SEWER MAINS.



MANHOLE BACKFILL

CITY OF YUBA CITY
STANDARD DETAIL
TR5
APPROVED DATE

7/7/17	ADDED NOTE 2 AND TO NOTE 1	JWF
DATE	REVISIONS	BY

REV.	DATE	BY	DESCRIPTION
FILENAME:			

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — GREGORY P. HARRIS — M28526 — 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — CURT A. GARDNER — C087145712 — 12/31/26 — CIVIL — STATE OF CALIFORNIA

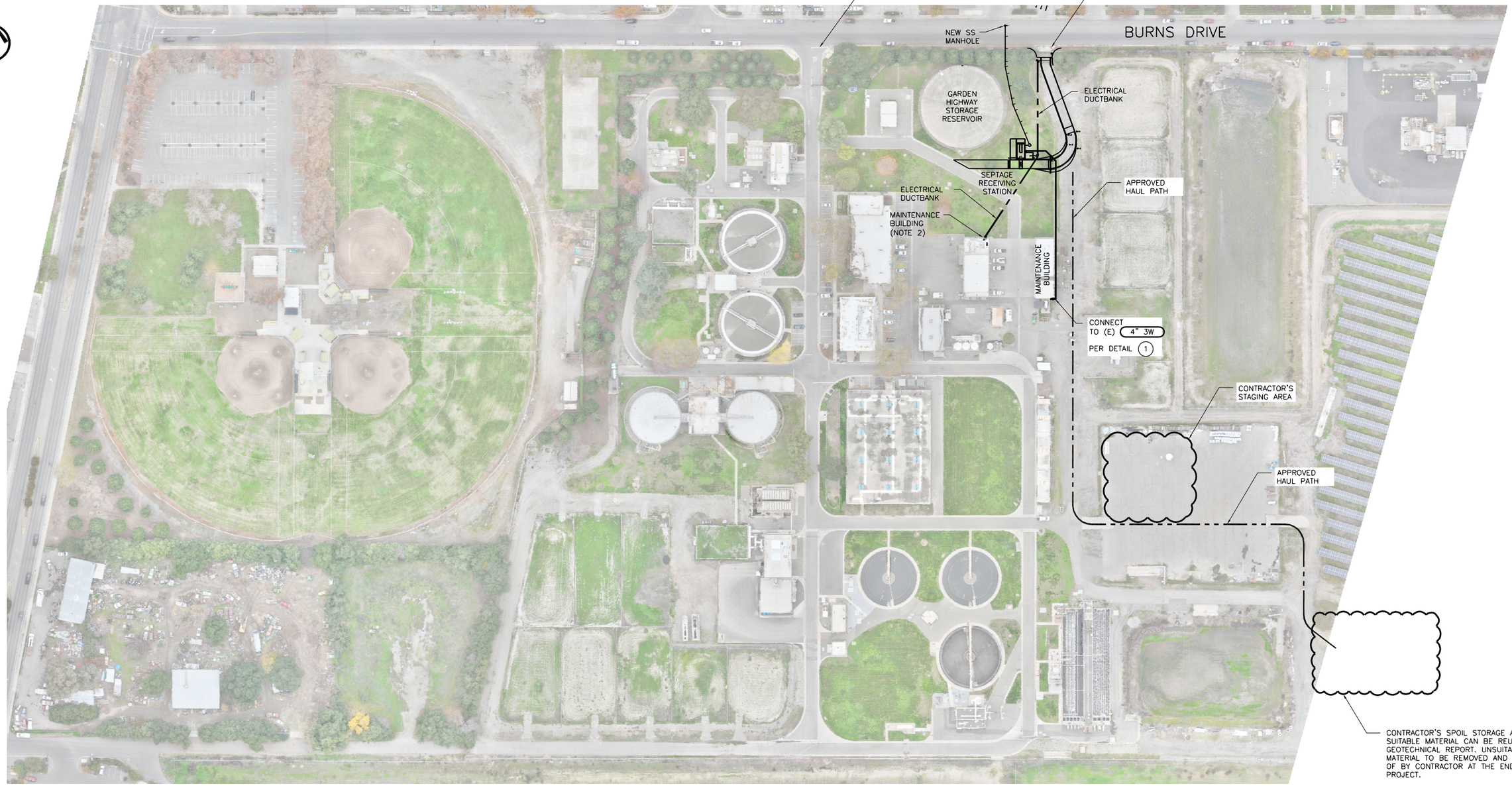
HERWIT ENGINEERING

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
TYPICAL
CITY
TYPICAL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING SET No. 2025-208
DRAWING NO. CT-1
SHEET NO. 9 OF 27

Last Saved: 4-30-26 09:29pm \\H-200\Vera\City of Yubo City\Septage Receiving Station\Drawings\Working\YYC-sept-C-01-03 - E-02 4-30-26 11:28am ivanna : X-YC-sept-BDR; YC Background - 1-26-26; Aerial; X-YC - topo points - HE; X-YC - Line work - HE; X-YC-Septage ;Yuba City Logo.jpg;:\Dr



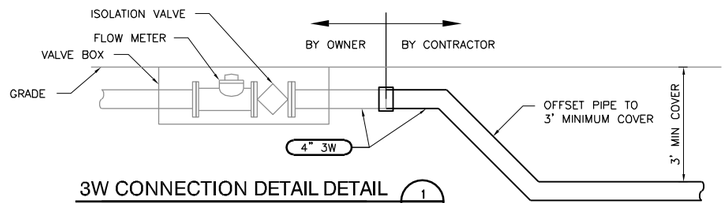
NOTES:

1. CONTRACTOR MANUAL ACCESS GATE. GATE TO BE LOCKED AT END OF EACH WORKDAY. SEE SPECIFICATIONS FOR WORK HOURS.

   CONTRACTOR TO TURN IN LIST OF WORKERS ON SITE AT THE BEGINNING OF EACH DAY.

2. POINT OF ELECTRICAL POWER CONNECTION AT (E) MAINTENANCE BUILDING. SEE DRAWING E-02.

SITE LAYOUT
SCALE: 1"=80'
A



3W CONNECTION DETAIL DETAIL
SCALE: NTS
1

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, RECORDED BY, M28326, Exp 6/30/27, MECHANICAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, GLORIA A. GARDNER, 25712, Exp 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
CIVIL
SITE LAYOUT

VERIFY SCALES
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NEW MANHOLE

BURNS DRIVE

NOTES 8, 9

8" SS

NOTE 5

GARDEN HIGHWAY
STORAGE RESERVOIR

NOTE 4

SEPTAGE
RECEIVING
STATION

REMOVE 24"
REDWOOD (TYP 2)
(SEE NOTES 1, 6)

NOTE 11

FL EL 53.40

VALLEY
GUTTER

C109
TYP

14'
(TYP)

NOTE 2

NOTE 7
(TYP)

NOTE 3

SWALE

FL EL 53.30

C110
TYP

REDWOOD
HEADER
(TYP)

NOTE 10

INV EL
52.70

INV EL
52.65

NOTE 7
(TYP)

NOTE 6

EXISTING
MOW STRIP

ADJUST GRADE OVER 10' SPAN TO
MATCH (E) GRAVEL ROAD ELEVATION

END OF NEW
ASPHALT SECTION

R=30'

EXISTING
MOW STRIP

4" 3W

X 53.55

X 53.55

X 53.55

X 54.05

CIVIL CONCRETE WORK. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL CONCRETE STRUCTURES.

BASE BID ASPHALT
ASPHALT SECTION 4" AC OVER 9" AB.

ALTERNATIVE BID ASPHALT
ASPHALT SECTION 4" AC OVER 9" AB.

NOTES:

1. REMOVED TREES AND CLEAR AND GRUB MATERIAL CAN BE STORED ON SITE. SEE DWG C-01 FOR SPOIL STORAGE AREA. UNUSED MATERIAL SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR AT THE END OF THE PROJECT.
2. MAINTAIN (E) VALLEY GUTTER. MATCH (E) ROAD ELEVATIONS AT CONNECTION POINT.
3. MAINTAIN (E) IRRIGATION CONTROLLERS. CAP AND MARK ENDS OF PIPES CUT DURING CONSTRUCTION OF NEW ROAD.
4. CAP AND MARK ENDS OF PIPES CUT DURING CONSTRUCTION OF NEW SEPTAGE RECEIVING STATION.
5. REPAIR AND RECONNECT ALL IRRIGATION LINES AND REPLACE IRRIGATION SPRAY HEADS WHERE DAMAGED BY INSTALLATION OF THE NEW 8"SS LINE. CUT BACK PAST TRENCH WALLS AS NEEDED FOR PIPE REPAIR.
6. REMOVE (E) 24" REDWOOD TREES. GRIND STUMPS TO 24" BELOW (E) GRADE. PLACE AND COMPACT NATIVE MATERIAL TO 95% COMPACTION TO BOTTOM OF NEW ROAD SECTION.
7. CLEAR AND GRUB EXISTING ORGANIC MATERIAL. SCARIFY 6" OF (E) SUBGRADE AND RECOMPACT TO 95% PRIOR TO INSTALLING ROAD SECTION. RAISE SUBGRADE TO BOTTOM OF ROAD SECTION WITH NATIVE MATERIAL FROM EXCAVATION OR IMPORT COMPACTED TO 95%.
8. INSTALL PER CITY TYPICALS WITHIN ROAD RIGHT OF WAY. INSTALL PER PROJECT TYPICALS FOR WORK WITHIN THE TREATMENT PLANT. SEE DRAWING C-03 FOR ADDITIONAL DETAILS.
9. TYPE A TRENCH RESTORATION WITH CLASS II AB PER DETAILS TR1 AND TR3. AC SECTION RESTORATION SHALL MATCH EXISTING ROAD SECTION AND SHALL MATCH EXISTING SLOPES, CROSS SLOPES AND ELEVATIONS.
10. SLOPE FINAL GRADE TO DRAIN THROUGH 6" SD.
11. SLOPE FINISH GRADE TO DRAIN THROUGH DRAINAGE SWALE.
12. SLOPE ROAD TO TRENCH GRADE.
13. DETAILS (2) & (3) REFER TO DETAILS ON DRAWING C-04.

PAVING AND GRADING PLAN

SCALE: 1"=20'

B

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — GREGORY P. HERWIT — No. M28326 — Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — KURT A. GARDNER — No. C45712 — Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

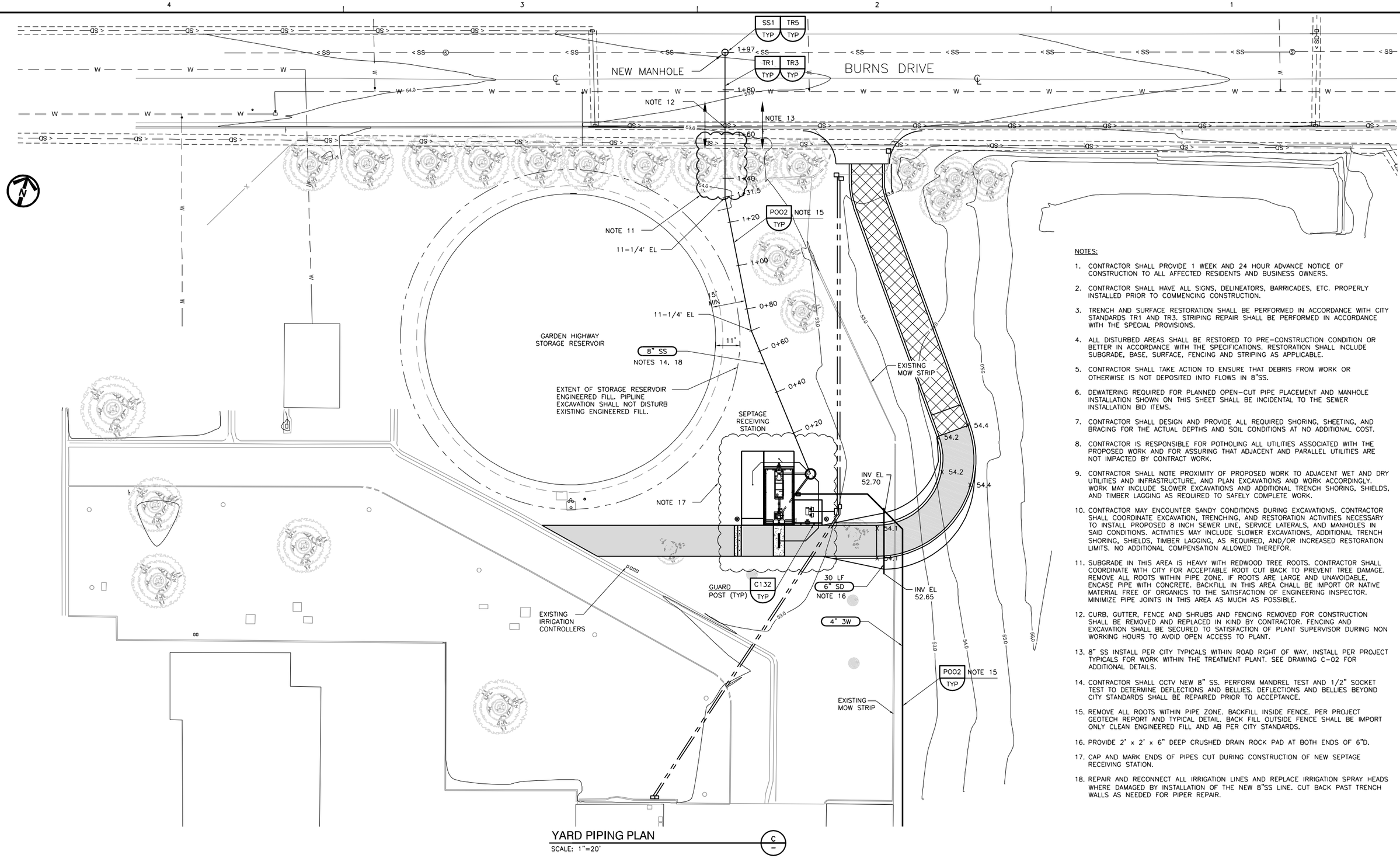
CIVIL

PAVING AND GRADING PLAN

VERIFY SCALES
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SHEET NO. 11 OF 27

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YARD PIPING PLAN
SCALE: 1"=20'
C

NOTES:

1. CONTRACTOR SHALL PROVIDE 1 WEEK AND 24 HOUR ADVANCE NOTICE OF CONSTRUCTION TO ALL AFFECTED RESIDENTS AND BUSINESS OWNERS.
2. CONTRACTOR SHALL HAVE ALL SIGNS, DELINEATORS, BARRICADES, ETC. PROPERLY INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
3. TRENCH AND SURFACE RESTORATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARDS TR1 AND TR3. STRIPING REPAIR SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
4. ALL DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION OR BETTER IN ACCORDANCE WITH THE SPECIFICATIONS. RESTORATION SHALL INCLUDE SUBGRADE, BASE, SURFACE, FENCING AND STRIPING AS APPLICABLE.
5. CONTRACTOR SHALL TAKE ACTION TO ENSURE THAT DEBRIS FROM WORK OR OTHERWISE IS NOT DEPOSITED INTO FLOWS IN 8"SS.
6. DEWATERING REQUIRED FOR PLANNED OPEN-CUT PIPE PLACEMENT AND MANHOLE INSTALLATION SHOWN ON THIS SHEET SHALL BE INCIDENTAL TO THE SEWER INSTALLATION BID ITEMS.
7. CONTRACTOR SHALL DESIGN AND PROVIDE ALL REQUIRED SHORING, SHEETING, AND BRACING FOR THE ACTUAL DEPTHS AND SOIL CONDITIONS AT NO ADDITIONAL COST.
8. CONTRACTOR IS RESPONSIBLE FOR POTHOLING ALL UTILITIES ASSOCIATED WITH THE PROPOSED WORK AND FOR ASSURING THAT ADJACENT AND PARALLEL UTILITIES ARE NOT IMPACTED BY CONTRACT WORK.
9. CONTRACTOR SHALL NOTE PROXIMITY OF PROPOSED WORK TO ADJACENT WET AND DRY UTILITIES AND INFRASTRUCTURE, AND PLAN EXCAVATIONS AND WORK ACCORDINGLY. WORK MAY INCLUDE SLOWER EXCAVATIONS AND ADDITIONAL TRENCH SHORING, SHIELDS, AND TIMBER LAGGING AS REQUIRED TO SAFELY COMPLETE WORK.
10. CONTRACTOR MAY ENCOUNTER SANDY CONDITIONS DURING EXCAVATIONS. CONTRACTOR SHALL COORDINATE EXCAVATION, TRENCHING, AND RESTORATION ACTIVITIES NECESSARY TO INSTALL PROPOSED 8 INCH SEWER LINE, SERVICE LATERALS, AND MANHOLES IN SAID CONDITIONS. ACTIVITIES MAY INCLUDE SLOWER EXCAVATIONS, ADDITIONAL TRENCH SHORING, SHIELDS, TIMBER LAGGING, AS REQUIRED, AND/OR INCREASED RESTORATION LIMITS. NO ADDITIONAL COMPENSATION ALLOWED THEREFOR.
11. SUBGRADE IN THIS AREA IS HEAVY WITH REDWOOD TREE ROOTS. CONTRACTOR SHALL COORDINATE WITH CITY FOR ACCEPTABLE ROOT CUT BACK TO PREVENT TREE DAMAGE. REMOVE ALL ROOTS WITHIN PIPE ZONE. IF ROOTS ARE LARGE AND UNAVOIDABLE, ENCASE PIPE WITH CONCRETE. BACKFILL IN THIS AREA CHALL BE IMPORT OR NATIVE MATERIAL FREE OF ORGANICS TO THE SATISFACTION OF ENGINEERING INSPECTOR. MINIMIZE PIPE JOINTS IN THIS AREA AS MUCH AS POSSIBLE.
12. CURB, GUTTER, FENCE AND SHRUBS AND FENCING REMOVED FOR CONSTRUCTION SHALL BE REMOVED AND REPLACED IN KIND BY CONTRACTOR. FENCING AND EXCAVATION SHALL BE SECURED TO SATISFACTION OF PLANT SUPERVISOR DURING NON WORKING HOURS TO AVOID OPEN ACCESS TO PLANT.
13. 8" SS INSTALL PER CITY TYPICALS WITHIN ROAD RIGHT OF WAY. INSTALL PER PROJECT TYPICALS FOR WORK WITHIN THE TREATMENT PLANT. SEE DRAWING C-02 FOR ADDITIONAL DETAILS.
14. CONTRACTOR SHALL CCTV NEW 8" SS. PERFORM MANDREL TEST AND 1/2" SOCKET TEST TO DETERMINE DEFLECTIONS AND BELLIES. DEFLECTIONS AND BELLIES BEYOND CITY STANDARDS SHALL BE REPAIRED PRIOR TO ACCEPTANCE.
15. REMOVE ALL ROOTS WITHIN PIPE ZONE. BACKFILL INSIDE FENCE. PER PROJECT GEOTECH REPORT AND TYPICAL DETAIL. BACK FILL OUTSIDE FENCE SHALL BE IMPORT ONLY CLEAN ENGINEERED FILL AND AB PER CITY STANDARDS.
16. PROVIDE 2' x 2' x 6" DEEP CRUSHED DRAIN ROCK PAD AT BOTH ENDS OF 6"D.
17. CAP AND MARK ENDS OF PIPES CUT DURING CONSTRUCTION OF NEW SEPTAGE RECEIVING STATION.
18. REPAIR AND RECONNECT ALL IRRIGATION LINES AND REPLACE IRRIGATION SPRAY HEADS WHERE DAMAGED BY INSTALLATION OF THE NEW 8"SS LINE. CUT BACK PAST TRENCH WALLS AS NEEDED FOR PIPER REPAIR.

REV.	DATE	BY	DESCRIPTION
FILENAME:			

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — GREGORY P. HARRIS — M28326 — 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — KURT A. GARDNER — C 85712 — Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

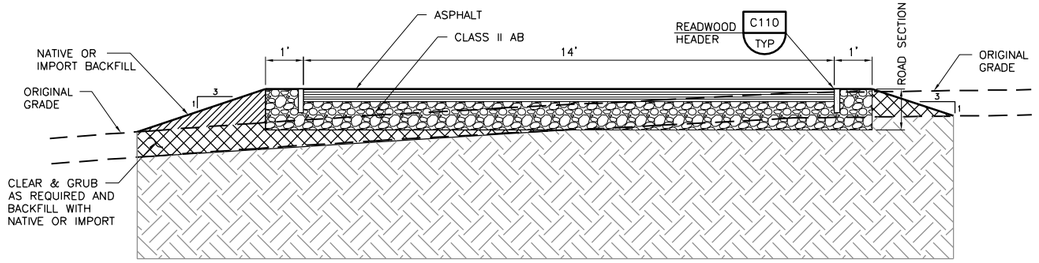
HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
CIVIL
YARD PIPING PLAN

VERIFY SCALES
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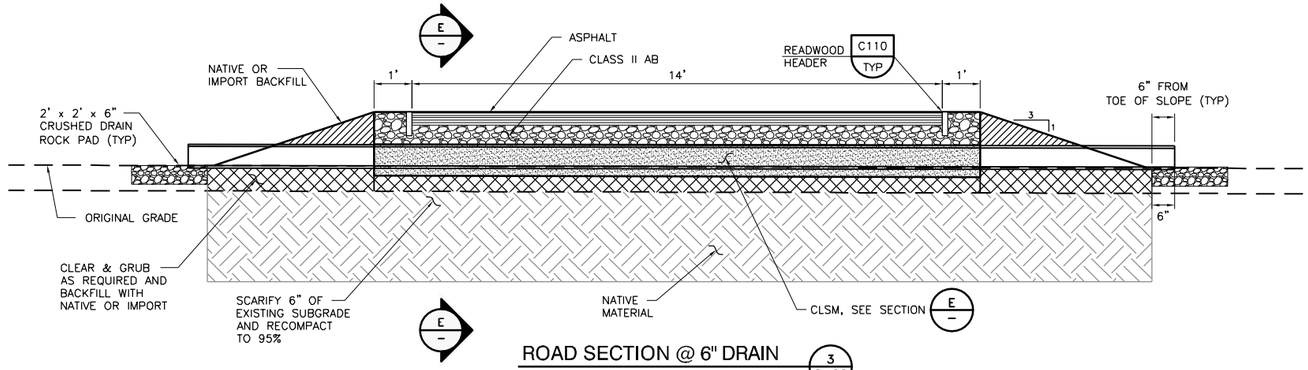
DRAWING SET No. 2025-208
DRAWING NO. C-03
SHEET NO. 12 OF 27



TYPICAL ROAD SECTION

SCALE: 1/2" = 1'-0"

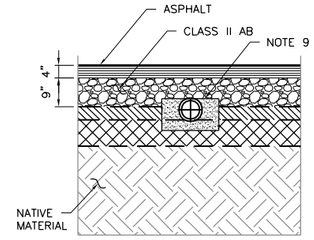
2 / C-02



ROAD SECTION @ 6" DRAIN

SCALE: 1/2" = 1'-0"

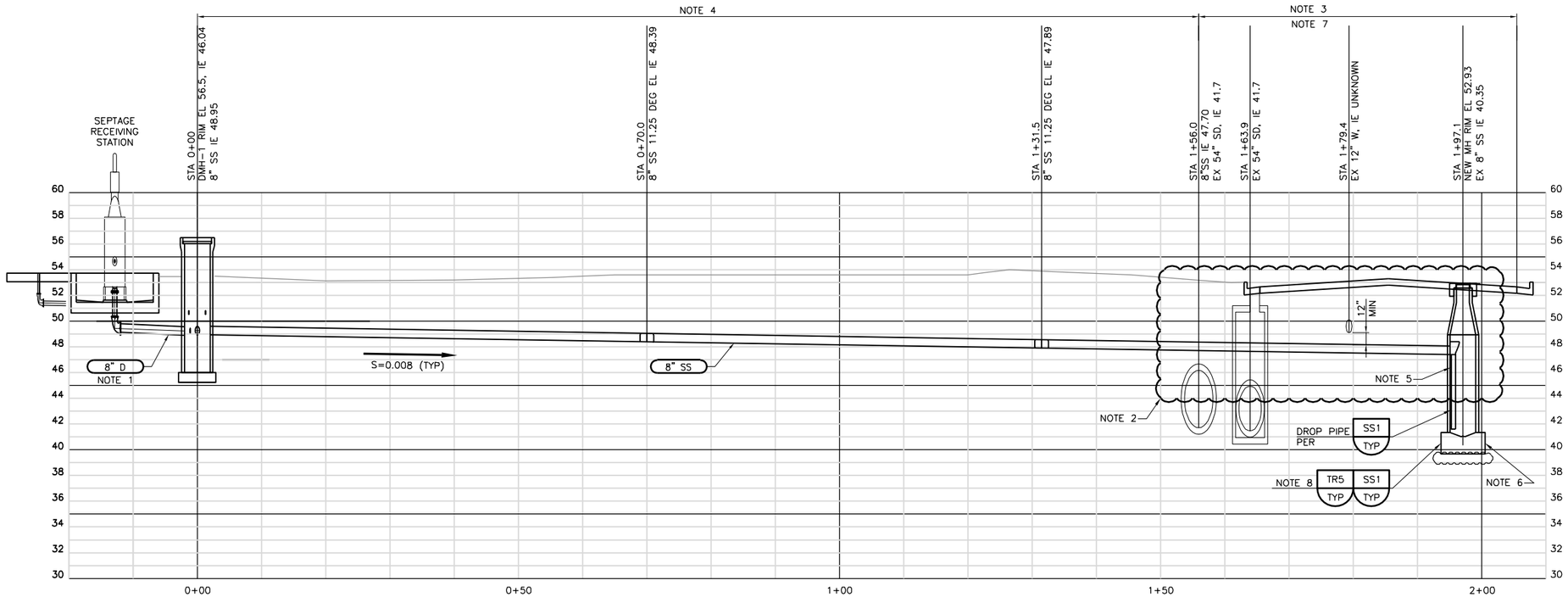
3 / C-02



SECTION

SCALE: 1/2" = 1'-0"

E / –



8" SS - DRAIN MANHOLE - NEW SS MH

SCALE: 1"=10' HOR – 1"=5' VERT

D / –

NOTES:

1. SEE DRAWINGS M-01 AND M-02 FOR DETAILS OF 8" D PLACEMENT.
2. CONTRACTOR SHALL POTHOLE TO VERIFY ALL UTILITY CONFLICTS AFTER USA MARKING AND BEFORE BEGINNING PIPE INSTALLATION. PIPE SLOPE MAY NEED TO BE ADJUSTED TO MAINTAIN SEPARATION.
3. APPROXIMATELY 50 FEET OF TYPE "A" TRENCH RESTORATION WITH CLASS II AB PER CITY STANDARD DETAILS TR1 AND TR3.
4. APPROXIMATELY 155 FEET OF TRENCH BACKFILL PER TYPICAL DETAIL P002. TRENCH BACKFILL CAN BE IMPORT FILL OR NATIVE FILL WITHOUT ORGANICS.
5. INSIDE DROP PER CITY STANDARD DETAIL SS1. CORE DRILL PIPE PENETRATION. EPOXY COAT MANHOLE INTERIOR, INCLUDING CHANNELS AND BENCHES, PRIOR TO PLACING IN SERVICE.
6. REINFORCED CAST IN PLACE CONCRETE BASE UNDER EXISTING SEWER PIPE..
7. ADJUST SLOPE OF NEW 8" SS BETWEEN EXISTING 54" SD AND NEW MANHOLE AS REQUIRED TO INSURE 12" MINIMUM CLEARANCE BETWEEN EXISTING 12" W AND NEW 8" SEWER.
8. VERIFY ELEVATION OF (E) SEWER PRIOR TO CONSTRUCTION OF MANHOLE / TIE IN.
9. ENCASE 6" D IN CLSM ACROSS ROAD SECTION FROM 3" BELOW PIPE TO TOP OF PIPE.

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, RECORD R. HARRIS, M28326, Exp 6/30/27, MECHANICAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, GLORY A. GARCIA, 75712, Exp 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

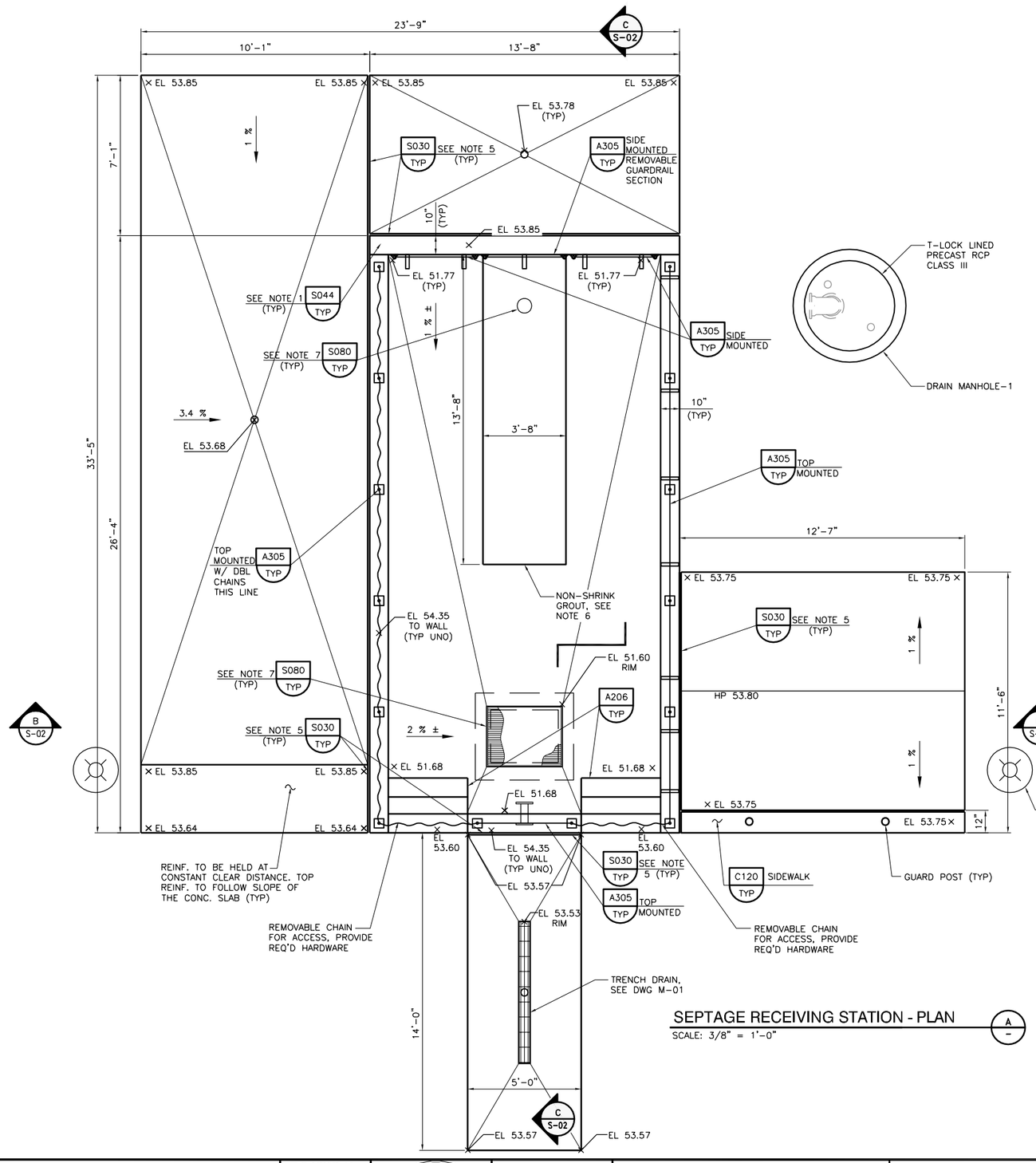
CIVIL

8" SS PROFILE

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. C-04
SHEET NO. 13 OF 27

Last Saved: 4-30-26 11:22am \\H-200s\herwit\City of Yubo City\Septage Receiving Station\Drawings\Working\YYC-sept-C-04 4-30-26 11:31am ivanna : X-DB-den-BDR, X-YC-sept. - Profile ,Yuba City Logo.jpg



SEPTAGE RECEIVING STATION - PLAN

SCALE: 3/8" = 1'-0"

FOUNDATION NOTES:

1. SEE GENERAL NOTES & TYP. DETAILS.
2. ALL UNCLEAR AND/OR MISSING DETAILS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
3. COORDINATE WITH OTHER DISCIPLINES FOR ALL EMBEDDED ITEMS, CONDUITS, PIPES, ETC.
4. ALL EMBEDDED ITEMS SHALL BE SECURE AND IN PLACE PRIOR TO POURING OF CONCRETE.
5. EJ, SEE S030, USE 1" THICK PRE-MOLDED ASPHALTIC FIBER EJ.
6. CONTRACTOR TO COORDINATE W/ EQUIPMENT MANUFACTURER THICKNESS, WIDTH AND LENGTH OF NON-SHRINK GROUT. ASSUME 3" THICK AND USE DIMENSIONS AS SHOWN ON PLAN FOR BIDDING PURPOSES.
7. NOT ALL PIPE, ELEC., ETC. PENETRATIONS ARE SHOWN, SEE MECH., ELEC. DRAWINGS, ETC. FOR LOCATIONS.

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED SDS
DRAWN SDS
CHECKED SDS
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, DEVON DAVID POLI, NO. 4431, Exp. 6-30-26, STRUCTURAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, KURT K. GALLER, No. 045712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

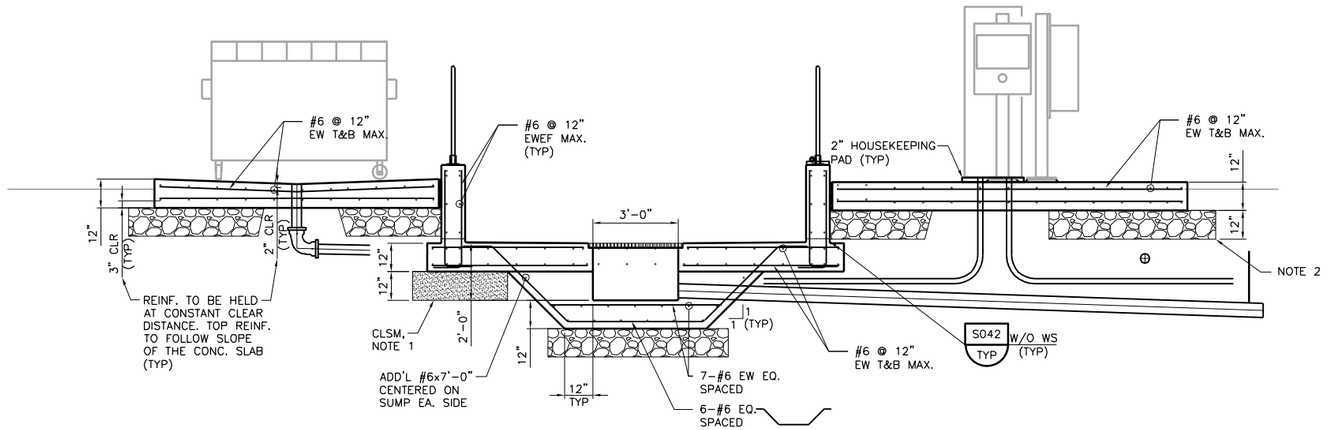
STRUCTURAL

SEPTAGE RECEIVING STATION PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. S-01
SHEET NO. 14 OF 27

Lost Saved: 4-30-26 02:43pm \\H-2003\herwit\City of Yuba City\Septage Receiving Station\Drawings\Working\HYC-sept-S-01-02 4-30-26 02:55pm hanna : X-YC-sept-BDR; X-YC-Septage ;Yuba City Logo.jpg



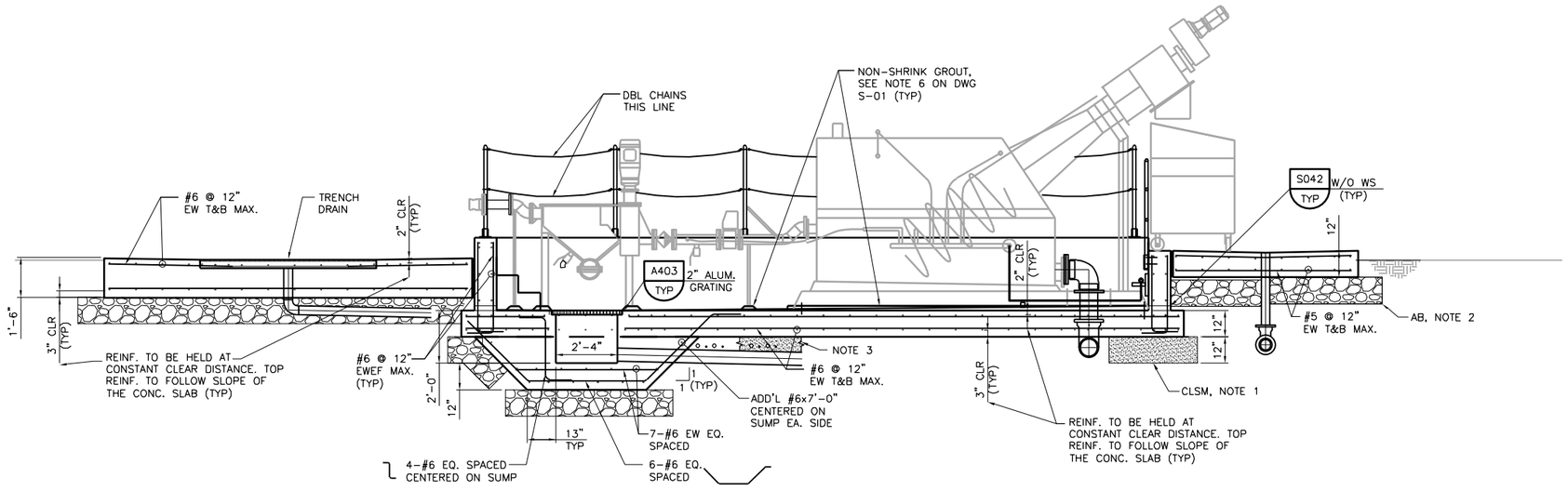
SEPTAGE RECEIVING STATION - SECTION

SCALE: 3/8" = 1'-0"

B / S-01

NOTES:

1. BACK FILL UNDER EACH SLAB WITH 12" CLSM. ELEC. CONDUITS SHALL BE RUN IN CLSM LAYER.
2. BACK FILL UNDER ALL OTHER CONCRETE TO BE 12" AB.
3. EXTEND CLSM LAYER TO ELECTRICAL CONTROL PANELS FOR CONDUIT BACK FILL.



SEPTAGE RECEIVING STATION - SECTION

SCALE: 3/8" = 1'-0"

C / S-01

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED SDS
DRAWN SDS
CHECKED SDS
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, DEVON DAVID FOLL, No. 4431, Exp. 6-30-26, STRUCTURAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, KURT A. GATZKE, No. 045712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

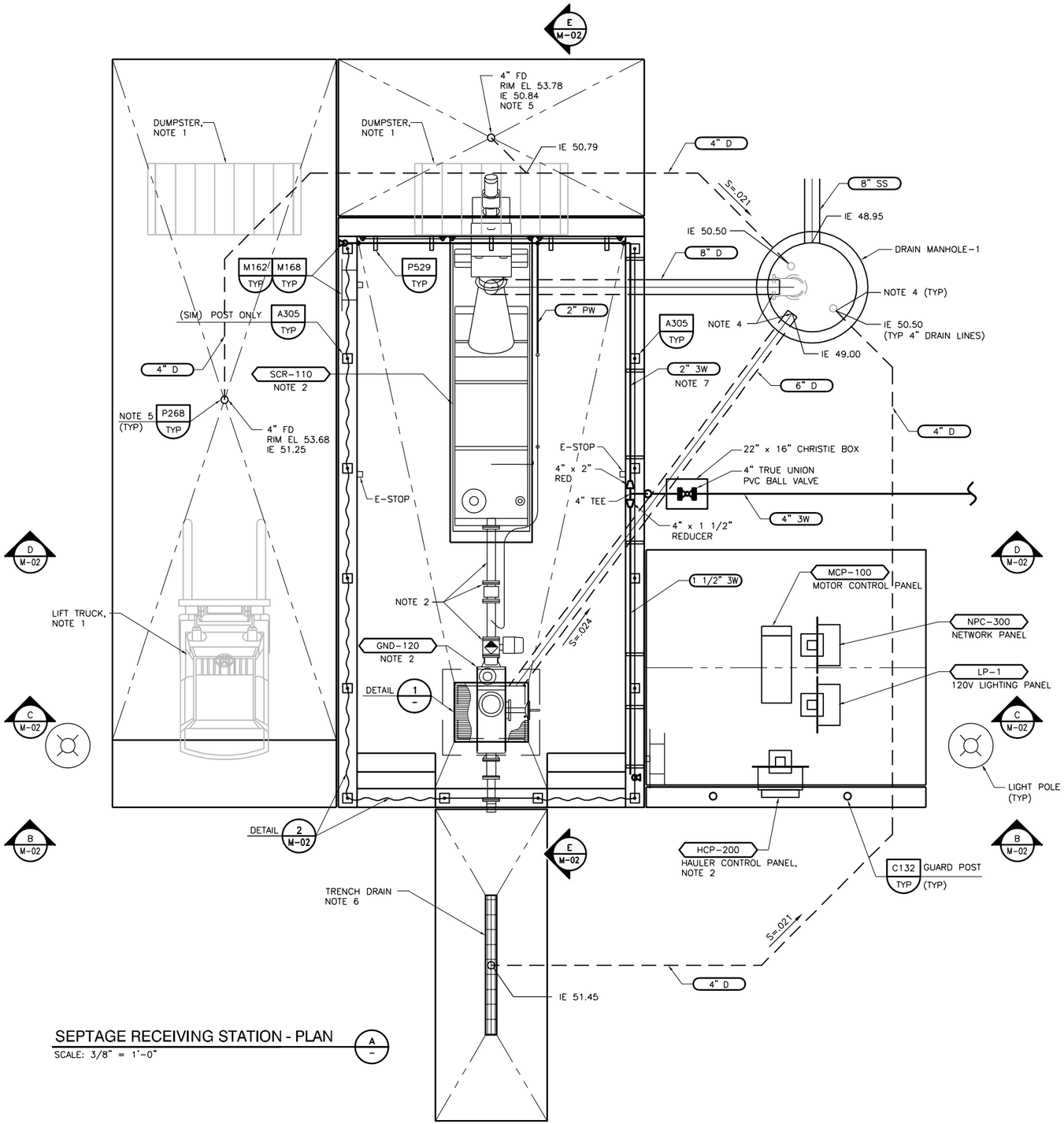
STRUCTURAL

SEPTAGE RECEIVING STATION SECTIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. S-02
SHEET NO. 15 OF 27

Lost Saved: 4-30-26 02:43pm \\H-200s\herwit\City of Yuba City\Septage Receiving Station\Drawings\Working\YYC-sept-S-01-02 4-30-26 02:56pm ivanna : X-YC-sept-BDR; X-YC-Septage ; Yuba City Logo.jpg

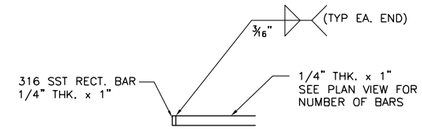


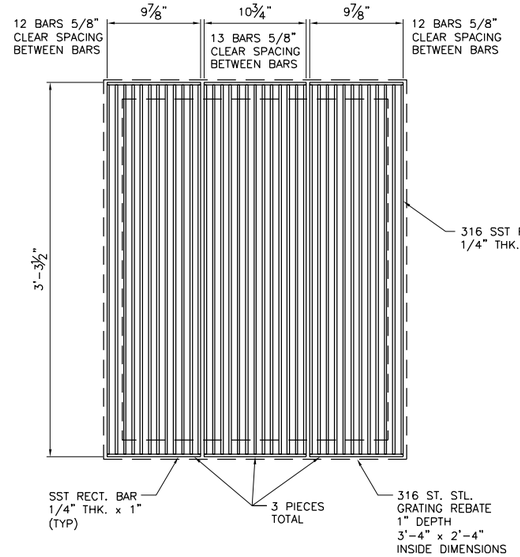
SEPTAGE RECEIVING STATION - PLAN

SCALE: 3/8" = 1'-0"

NOTES:

1. OWNER SUPPLIED EQUIPMENT SHOWN FOR REFERENCE ONLY.
2. OWNER SUPPLIED EQUIPMENT INSTALLED BY CONTRACTOR.
3. SEE FRANKLIN MILLER EQUIPMENT SHOP DRAWING FOR COMPLETE DESCRIPTION OF ALL EQUIPMENT PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR.
4. EXTEND ALL PVC DRAIN LINES 6" INTO MANHOLE TO ALLOW FUTURE CONNECTION OF FITTINGS.
5. FLOOR DRAINS SHALL BE 4" JOSAM 30004-5A-50-Y ZURN ZN-415-4NH-5HB 4 IN HUB, CI BODY AND POLISHED NATIVE GRADE OR EQUAL.
6. TRENCH DRAIN SHALL BE ZURN ZN667-TS 75 IN LONG, 6" WIDE, 4" DEEP 4" OUTLET, DUCTILE IRON BODY NICKEL BRONZE TYP, TO SECURE WITH SLOTTED SCREWS OR EQUAL.
7. SUPPORT 3W PIPING ON WALL OR SLAB PER P540 TYP OR P529 TYP ON 5'-0" O.C.





NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER TO REVIEW PRIOR TO FABRICATION.
2. REMOVE ALL BURRS AND SHARP EDGES.
3. PICKLE AND PASSIVATE AFTER FABRICATION.

SST GRATING - DETAIL

SCALE: 3/8" = 1'-0"

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, GREGORY P. HARRIS, No. M28326, Exp. 6/30/27, MECHANICAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, KURT A. GARDNER, No. 95712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

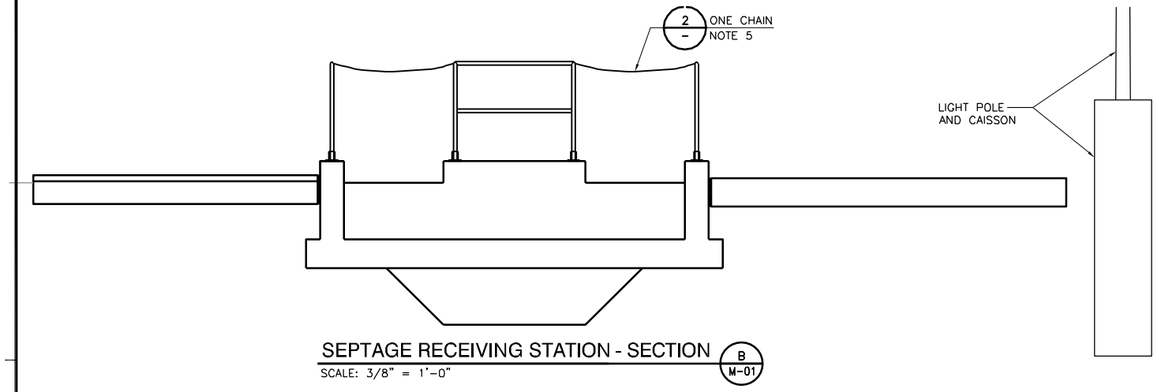
YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
MECHANICAL
SEPTAGE RECEIVING STATION PLAN AND DETAIL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. M-01
SHEET NO. 16 OF 27

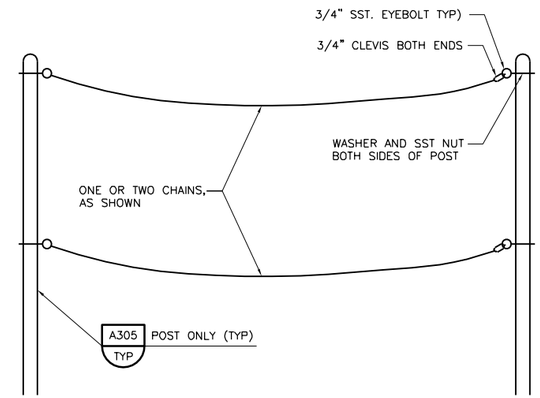
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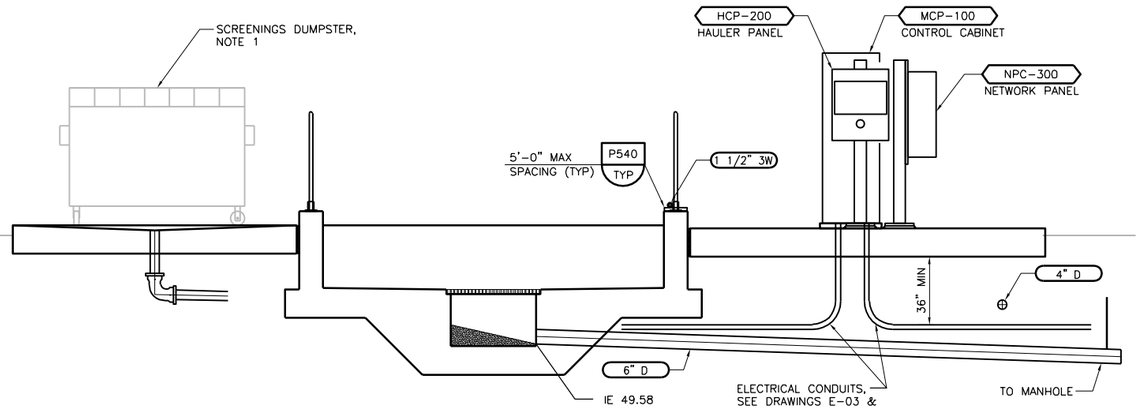
SEPTAGE RECEIVING STATION - SECTION (B / M-01)
SCALE: 3/8" = 1'-0"

NOTES:

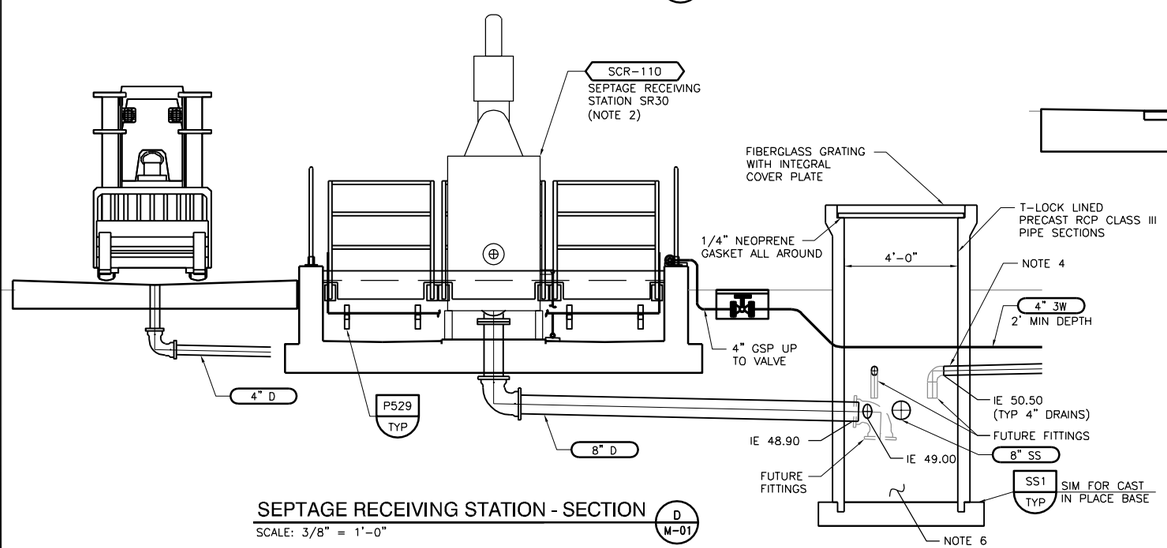
1. OWNER SUPPLIED EQUIPMENT SHOWN FOR REFERENCE ONLY.
2. OWNER SUPPLIED EQUIPMENT INSTALLED BY CONTRACTOR.
3. INSTALL 4" ø x 12" SST FL X FL SPOOL BETWEEN ROCK TRAP AND 4" QUICK DISCONNECT.
4. EXTEND ALL PVC DRAIN LINES 4" INTO MANHOLE TO ALLOW FUTURE CONNECTION OF FITTINGS.
5. SST CHAIN. CONNECT TO POSTS PER DETAIL 2/–.
6. VOLUME BELOW 8" SS INVERT USED AS SEDIMENT TRAP.
7. SCH 80 PVC ELBOW W/VAN STONE FLANGES.



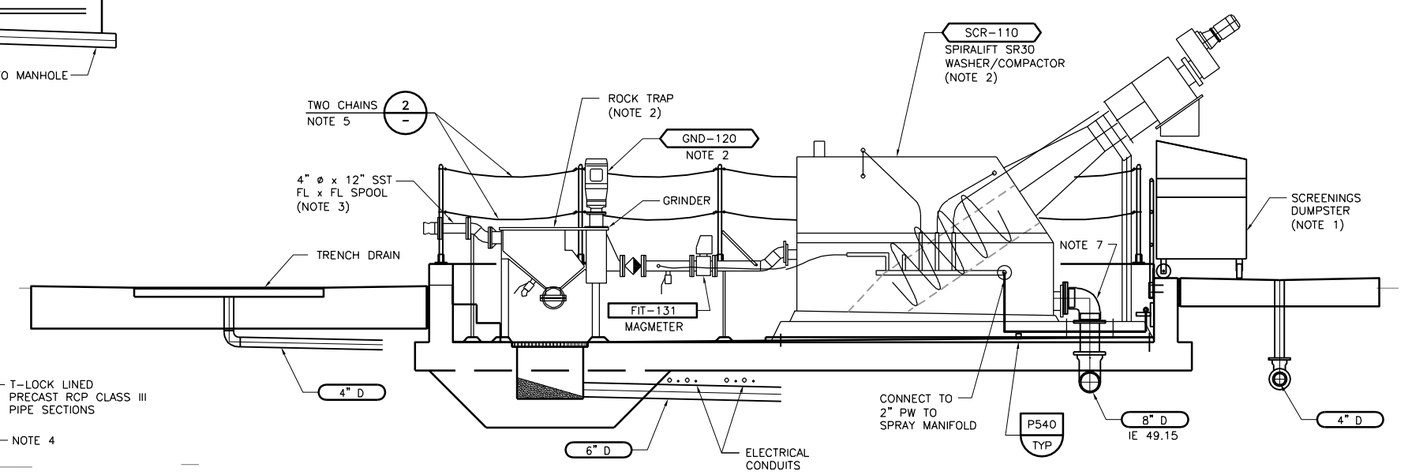
CHAIN CONNECTION - DETAIL (2 / M-01 – 2 / –)
SCALE: 1-1/2" = 1'-0"



SEPTAGE RECEIVING STATION - SECTION (C / M-01)
SCALE: 3/8" = 1'-0"



SEPTAGE RECEIVING STATION - SECTION (D / M-01)
SCALE: 3/8" = 1'-0"



SEPTAGE RECEIVING STATION - SECTION (E / M-01)
SCALE: 3/8" = 1'-0"

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED KAG
DRAWN IG
CHECKED GPH
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — GREGORY P. HARRIS — M28526 — 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — CURT A. GARDNER — C85712 — 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
MECHANICAL
SEPTAGE RECEIVING STATION
SECTIONS AND DETAIL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING SET No. 2025-208
DRAWING NO. M-02
SHEET NO. 17 OF 27

Last Saved: 4-30-26 03:01pm \\H-200a\herwit\City of Yuba City\Septage Receiving Station\Drawings\Working\HYC-sept-M-01-02 4-30-26 03:02pm ivanno : X-XC-sept-BDR; X-XC-Septage ;Yubo City Logo.jpg

SINGLE LINE AND SCHEMATIC DIAGRAM SYMBOLS

- TRANSFORMER WITH PRIMARY AND SECONDARY VOLTAGE, KVA RATING AND IMPEDANCE AS NOTED
- DRAWOUT TYPE CIRCUIT BREAKER
- 20AF — FUSED DISCONNECT SWITCH
- DMP — DIGITAL METERING
- 100/5 (3) — CURRENT TRANSFORMER (3) INDICATES QUANTITY
- 3 — COMBINATION MAGNETIC MOTOR STARTER (SIZE AS SHOWN)
- 1R / 1F — REVERSING MOTOR STARTER, SIZES AND DIRECTIONS INDICATED
- 100AF / 20AT, 1P — CIRCUIT BREAKER WITH FRAME SIZE, TRIP CURRENT AND NO. OF POLES (3P U.O.N.)
- MCP / 7 — MOTOR CIRCUIT PROTECTOR–NUMBER INDICATES CONTINUOUS CURRENT RATING
- WIRE INTERSECTION POINT
- CR — RELAY RELAY : CR–CONTROL COIL, TR–TIME DELAY RELAY
- TR — SOLID STATE TIME DELAY RELAY
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- PLC OUTPUT CONTACT
- PLC CONNECTION
- DEDICATED CONTROLLER OUTPUT CONTACT
- DEDICATED CONTROLLER CONNECTION
- FUSE
- GROUND
- OR (A) — INDICATING LIGHT–LETTER DENOTES COLOR (A = AMBER, B = BLUE, G = GREEN, R = RED, W = WHITE, Y = YELLOW)
- OR — START PUSH BUTTON
- OR — STOP PUSH BUTTON
- OR — STOP LOCKOUT PUSH BUTTON
- OR — MUSHROOM HEAD PUSH BUTTON
- OR — SELECTOR SWITCH
- MAINTAINED PUSH BUTTON
- GEARED LIMIT SWITCH – CLOSED
- GEARED LIMIT SWITCH – OPEN
- OR – DISCONNECT SWITCH
- SM OR — MANUAL STARTER (W/OL AND PILOT LIGHT)
- THERMAL OVERLOAD HEATER

- LS OR — LEVEL ACTUATED SWITCH (FLOAT)
- PS OR — PRESSURE ACTUATED SWITCH
- VS OR V OR V — VACUUM ACTUATED SWITCH
- TS OR — TEMPERATURE ACTUATED SWITCH
- FS OR — FLOW ACTUATED SWITCH
- PS — DIFFERENTIAL PRESSURE ACTUATED SWITCH (NORMALLY OPEN, CLOSING ON INCREASING DIFF.)
- DIFFERENTIAL PRESSURE ACTUATED SWITCH (NORMALLY CLOSED, OPENING ON INCREASING DIFF.)
- WS OR — TORQUE SWITCH
- ZS — LIMIT SWITCH (NORMALLY OPEN)
- ZS — LIMIT SWITCH (NORMALLY OPEN, HELD CLOSED)
- ZS — LIMIT SWITCH (NORMALLY CLOSED)
- ZS — LIMIT SWITCH (NORMALLY CLOSED, HELD OPEN)
- TIME DELAY RELAY CONTACT (NORMALLY OPEN WITH TIME DELAY CLOSING AFTER COIL IS ENERGIZED)
- TIME DELAY RELAY CONTACT (NORMALLY CLOSED WITH TIME DELAY OPENING AFTER COIL IS ENERGIZED)
- TIME DELAY RELAY CONTACT (NORMALLY CLOSED WITH TIME DELAY CLOSING AFTER COIL IS DE–ENERGIZED)
- TIME DELAY RELAY CONTACT (NORMALLY OPEN WITH TIME DELAY OPENING AFTER COIL IS DE–ENERGIZED)
- POTENTIOMETER
- CAPACITOR
- MOT OR M — MOTOR
- 5 — MOTOR – NUMBER INDICATES H.P
- GEN — GENERATOR
- A V — AMMETER , VOLTMETER
- KWH — KILOWATTHOUR METER
- KW — KILOWATT METER
- KVAR — KILOVOLT AMPERE REACTIVE METER
- AS VS — AMMETER SWITCH , VOLTMETER SWITCH
- PC OR PC — PHOTOCELL
- SV OR SV OR XV — SOLENOID VALVE
- CR OR CR — CONTROL RELAY
- PR OR — PROBE
- RTM — RUNNING TIME METER

SWITCH & OUTLET SYMBOLS

- $ — SINGLE POLE SWITCH
- $2 — TWO POLE SWITCH
- $3 — THREE–WAY SWITCH
- $4 — FOUR–WAY SWITCH
- $P — SWITCH WITH PILOT LIGHT
- $K — KEY OPERATED SWITCH
- $EP — HAZARDOUS AREA SWITCH
- $OS — OCCUPANCY SENSING SWITCH
- EP — SINGLE RECEPTACLE 120V, 20A EXPLOSION–PROOF TYPE
- DUPLEX RECEPTACLE 120V, 20A
- TWISTLOCK RECEPTACLE 120V, 20A
- 30 — 240V, 1 PHASE RECEPTACLE, AMPERE RATING NOTED
- 60 — 480V, 3 PHASE WELDING RECEPTACLE, AMPERE RATING NOTED
- COMBINATION 120V, 240 VOLT SPECIAL RECEPTACLE FOR LABORATORY EQUIPMENT
- DUPLEX FLOOR OUTLET
- TELEPHONE OUTLET

ABBREVIATIONS

ATS	AUTOMATIC TRANSFER SWITCH
ADM	ADMINISTRATION
BCW	BARE COPPER WIRE
BLD	BUILDING
C	CONDUIT
CKT	CIRCUIT
CB	CIRCUIT BREAKER
C.O.	CONDUIT ONLY
CPT	CONTROL POWER TRANSFORMER
CTBX	CONTROL TERMINAL BOX
DN	DOWN
DWG	DRAWING
(E)	EXISTING
EMS	EMERGENCY STOP
EP	EXPLOSION PROOF (CLASS I, DIV 1, GROUP C, D)
FAP	FIRE ALARM PANEL
FAMP	FIRE ALARM MASTER PANEL
F.O.	FIBER OPTIC CABLE
FWD	FORWARD
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTOR
GND	GROUND
INTLK	INTERLOCK
ISR	INTRINSICALLY – SAFE RELAY
IPBX	INSTRUMENT PULLBOX
JB	JUNCTION BOX
LB	LOAD BANK
LTG	LIGHTING
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MH	MAHHOLE
MOV	MOTOR OPERATED VALVE
MTD	MOUNTED
(N)	NEW
NL	NIGHT LIGHT (NOT SWITCHED)
NC, NO	NORMALLY CLOSED, OPEN
OL	OVERLOAD RELAY
OSWF	OUTPUT SINE WAVE FILTER
PBX	PULLBOX
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	POWER MONITOR
PNL	PANEL
PR	SHIELDED, TWISTED INSTRUMENT PAIR
PWR	POWER
REV	REVERSE
SPB	SIGNAL PULLBOX
SV	SOLENOID VALVE
TBX	TERMINAL BOX
TR	SHIELDED, TWISTED INSTRUMENT TRIAD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
U.O.N.	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
VT	VOLTAGE TRANSFORMER
WP	WEATHER PROOF
W.T.	WALK–THRU LIGHTS (NOT SWITCHED)
XFMR	TRANSFORMER

CONDUIT & WIRING SYMBOLS

- CONDUIT EXPOSED
- CONDUIT CONCEALED IN DUCTBANK, SLAB OR BELOW GRADE
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT PLUGGED FLUSH
- CONDUIT CAPPED
- T — TELEPHONE CONDUIT 3/4" UNLESS OTHERWISE NOTED
- EXISTING CONDUIT TO BE REMOVED OR ABANDONED
- EXISTING CONDUIT
- FLEXIBLE CORD
- BB–E432 — HOME RUN WITH DESTINATION AND CIRCUIT NUMBER NOTED
- P — PAGING/INTERCOM SYSTEM CONDUIT 3/4" UNLESS OTHERWISE NOTED
- BURRIED GROUND CABLE
- EXPOSED GROUND CABLE
- E — ELECTRICAL INTERLOCK
- SCREEN LINE, INDICATES EXISTING OR NON–ELECTRICAL BACKGROUND
- OVERHEAD POWER POLE LINE
- G — LTG CIRCUIT CROSS HATCH INDICATES NUMBER OF WIRES "G" INDICATES GROUND

MISCELLANEOUS SYMBOLS

- PA SPEAKER
- BELL
- BUZZER
- T — THERMOSTAT
- T — TRANSFORMER
- J OR J — JUNCTION BOX
- TB — TERMINAL BOX
- FAN
- PANELBOARD
- VFD — VARIABLE FREQUENCY DRIVE
- LOCAL STARTER OR CONTROLLER
- LCP — LOCAL CONTROL PANEL
- HID OR INCANDESCENT LIGHTING FIXTURE, CEILING MOUNTED, WALL MOUNTED
- X — EXIT LIGHT
- FLUORESCENT FIXTURE WITH EMERGENCY POWER PACK
- EMERGENCY BATTERY PACK LIGHTING FIXTURE
- A / 3/40 / 12'–0" — FIXTURE TYPE; B — QUANTITY OF FIXTURES; NUMBER OF LAMPS/LAMPS WATTAGE; MOUNTING ELEVATION–BOTTOM OF FIXTURE TO FINISH FLOOR OR GRADE
- GROUND ROD IN GROUND WELL
- K — KIRK KEY INTERLOCK
- POLE MOUNTED LIGHTING FIXTURE
- EXHOTERMIC WELDED CONNECTION

EQUIPMENT LOCATION SYMBOLS

- △ AT OR NEAR LOAD
- ✳ IN MOTOR CONTROL CENTER
- ◇ TO PLC I/O RACK
- □ IN LOCAL CONTROL PANEL

GENERAL NOTES

1. ALL ELECTRICAL TYPICAL DETAILS SHOWN (ON T–SERIES DWGS) SHALL BE FOLLOWED WHERE APPLICABLE, WHETHER SPECIFICALLY REFERED TO OR NOT.
2. ALL WALL MOUNTED ENCLOSURES SHALL BE INSTALLED AT APPROXIMATELY 5 FEET FROM TOP OF ENCLOSURES TO FINISH GRADE OR FLOOR UNLESS SPECIFICALLY INDICATED OTHERWISE.
3. ALL THERMOSTATS, CONVENIENCE RECEPTACLES LIGHTING SWITCHES, AND MANUAL STARTERS SHALL BE MOUNTED AT 4'–0" ABOVE FINISH FLOOR.
4. NEMA 4X INDICATES THAT ALL MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE SUITABLE FOR WET, CORROSIVE ENVIRONMENT. ALL EXTERIOR LOCATIONS SHAL BE NEMA 4X UNLESS OTHERWISE NOTED.
5. NEMA 7 INDICATES THAT ALL MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE SUITABLE FOR CLASS 1 DIV. 1 HAZARDOUS LOCATION.

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — ARON J. LAFOUT — No. 8026 — Exp. 9/30/26 — ELECTRICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — CURT A. GARDNER — No. 75712 — Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

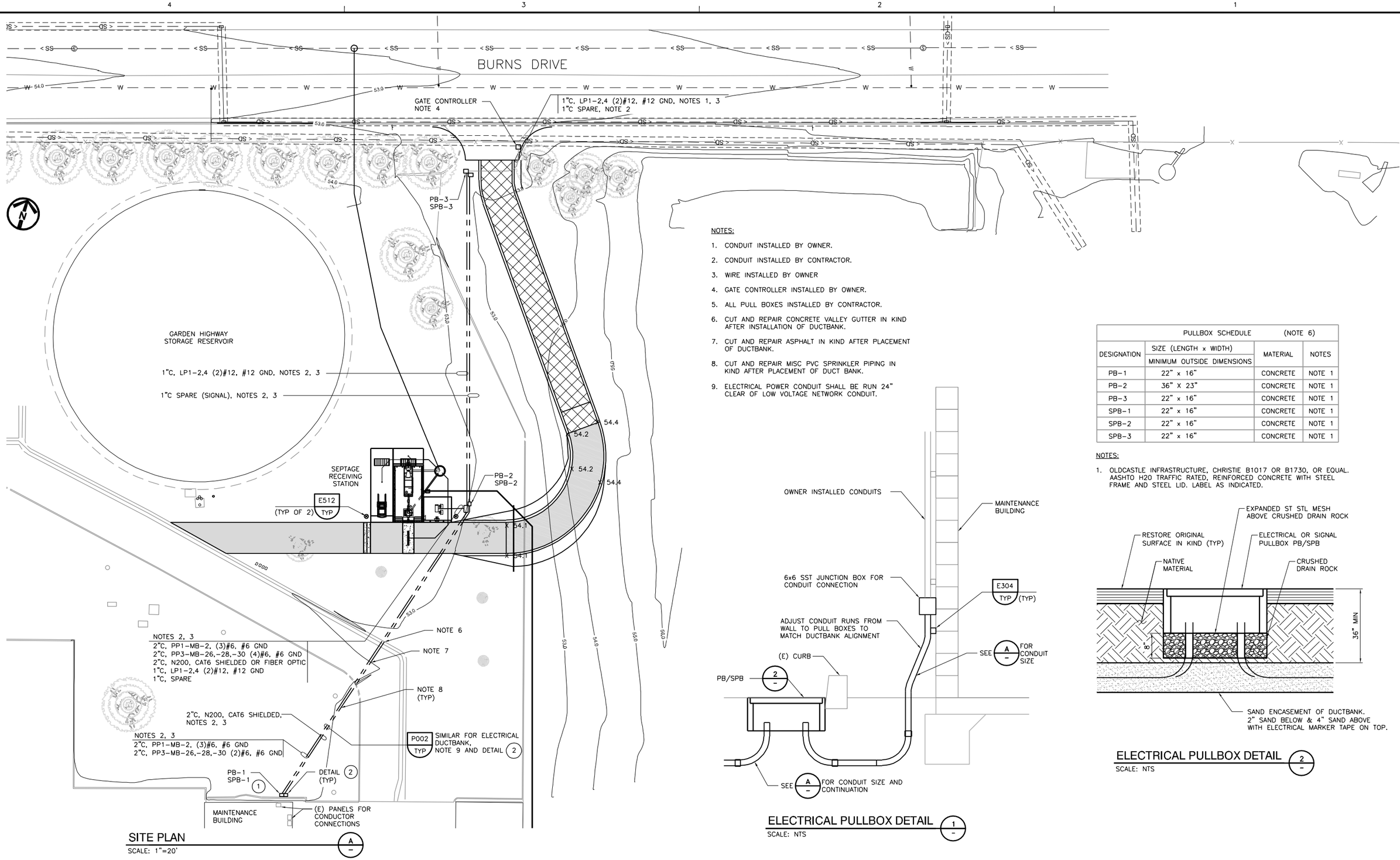
ELECTRICAL

SYMBOLS AND ABBREVIATIONS

VERIFY SCALES
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DRAWING SET No. 2025–208
DRAWING NO. E–01
SHEET NO. 18 OF 27

Last Saved: 4-29-26 11:55am \\H-200\herwit\City of Yuba City\Septage Receiving Station\Drawings\Working\HYC-sept-E-01 4-30-26 11:35am ivanna : X-YC-sept-BDR ;Yuba City Logo.jpg



SITE PLAN

SCALE: 1"=20'

NOTES:

1. CONDUIT INSTALLED BY OWNER.
2. CONDUIT INSTALLED BY CONTRACTOR.
3. WIRE INSTALLED BY OWNER
4. GATE CONTROLLER INSTALLED BY OWNER.
5. ALL PULL BOXES INSTALLED BY CONTRACTOR.
6. CUT AND REPAIR CONCRETE VALLEY GUTTER IN KIND AFTER INSTALLATION OF DUCTBANK.
7. CUT AND REPAIR ASPHALT IN KIND AFTER PLACEMENT OF DUCTBANK.
8. CUT AND REPAIR MISC PVC SPRINKLER PIPING IN KIND AFTER PLACEMENT OF DUCT BANK.
9. ELECTRICAL POWER CONDUIT SHALL BE RUN 24" CLEAR OF LOW VOLTAGE NETWORK CONDUIT.

ELECTRICAL PULLBOX DETAIL 1

SCALE: NTS

PULLBOX SCHEDULE (NOTE 6)			
DESIGNATION	SIZE (LENGTH x WIDTH) MINIMUM OUTSIDE DIMENSIONS	MATERIAL	NOTES
PB-1	22" x 16"	CONCRETE	NOTE 1
PB-2	36" X 23"	CONCRETE	NOTE 1
PB-3	22" x 16"	CONCRETE	NOTE 1
SPB-1	22" x 16"	CONCRETE	NOTE 1
SPB-2	22" x 16"	CONCRETE	NOTE 1
SPB-3	22" x 16"	CONCRETE	NOTE 1

NOTES:

1. OLDCASTLE INFRASTRUCTURE, CHRISTIE B1017 OR B1730, OR EQUAL. AASHTO H20 TRAFFIC RATED, REINFORCED CONCRETE WITH STEEL FRAME AND STEEL LID. LABEL AS INDICATED.

ELECTRICAL PULLBOX DETAIL 2

SCALE: NTS

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, LAURA A. ARGUELLO, No. 8026, Exp. 9/30/26, ELECTRICAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, LAURA A. GARCIA, No. 95712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

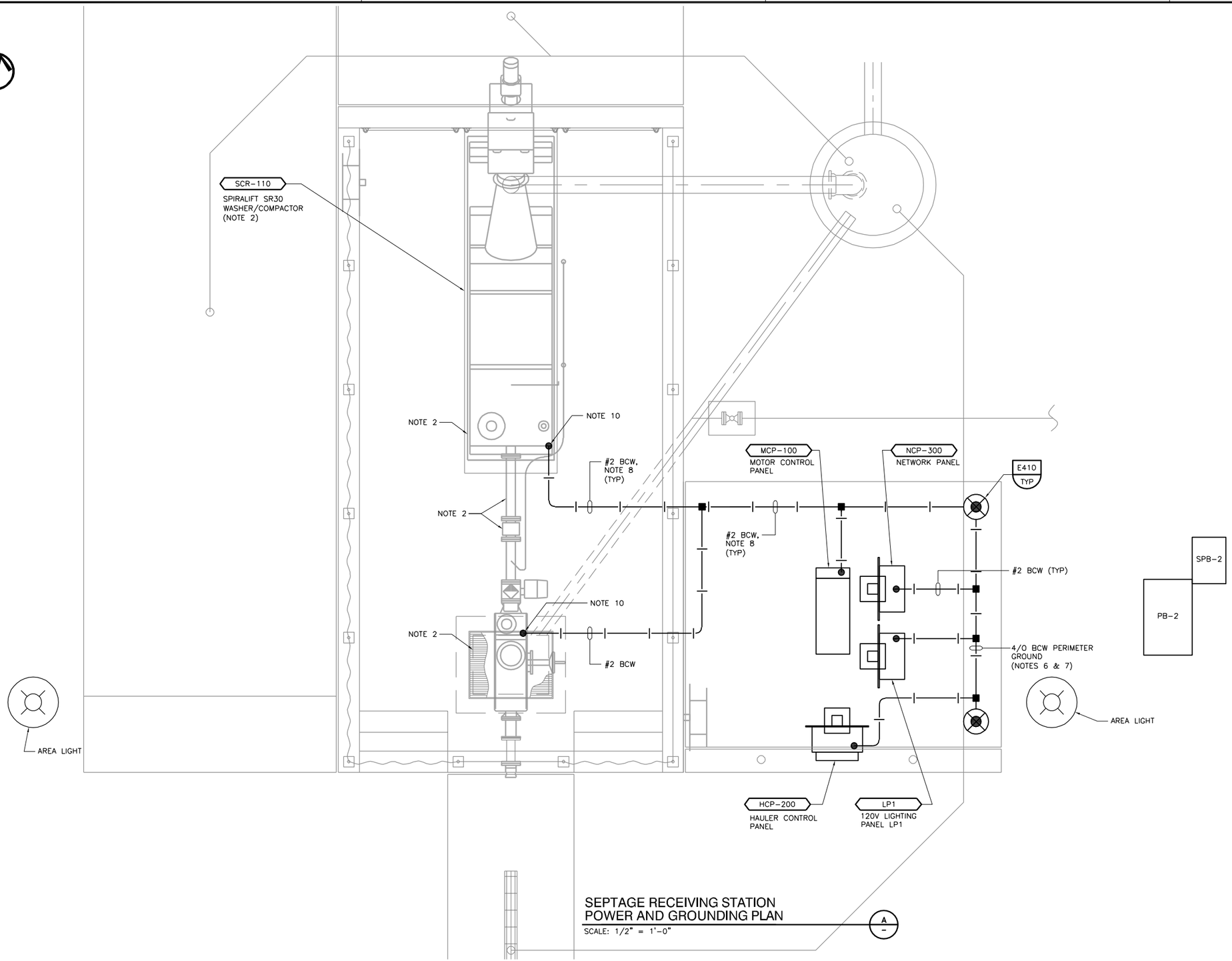
ELECTRICAL

SITE PLAN

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DRAWING SET No. 2025-208
DRAWING NO. E-02
SHEET NO. 19 OF 27

Last Saved: 4-30-26 09:29am \\H-200s\herwit\City of Yubo City\Septage Receiving Station\Drawings\Working\YYC-sept-C-01-03 - E-02 4-30-26 11:30am kvanno : X-YC-sept-BDR; YC Background - 1-26-26; Aerial; X-YC - topo points - HE; X-YC - Line work - HE; X-YC-Septage ;Yuba City Logo.jpg;;\Dr



SEPTAGE RECEIVING STATION
POWER AND GROUNDING PLAN

SCALE: 1/2" = 1'-0"

A

NOTES:

1. SEE DRAWING E-04 FOR POWER AND CONTROL CONDUITS..
2. OWNER SUPPLIED EQUIPMENT INSTALLED BY CONTRACTOR.
3. .
4. ALL ELECTRICAL WORK ON THIS DRAWING IS PROVIDED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
5. .
6. GROUND GRID SHALL BE CONTINUOUS AND INSTALLED A MINIMUM OF 18" BELOW GRADE. CONTRACTOR SHALL PROVIDE SUFFICIENT SLACK TO ALLOW FOR BACK FILL AND SOIL MOVEMENT.
7. CONTRACTOR SHALL TEST AND ASSURE THE GROUND SYSTEM HAS A RESISTANCE TO TRUE EARTH OF FIVE (5) OHMS OR LESS. IF REQUIRED, CONTRACTOR SHALL INSTALL ADDITIONAL GROUND RODS TO SYSTEM UNTIL CORRECT RESISTANCE IS ACHIEVED.
8. EXTEND THE 2/0 BCW GROUND CABLE TO GROUND GRID.
9. GROUNDING CONDUCTORS AND FEEDERS SHALL BE BOUNDED TO THE GROUNDING ELECTRODE SYSTEM AT EACH SEPTIC GROUNDING ELECTRODES IN ACCORDANCE WITH WEC ARTICLE 250.
10. CONNECT TO EQUIPMENT.

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — LUKE A. AROSTEGUI — NO. 8026 Exp. 9/30/26 — ELECTRICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — GLENN A. GARDNER — NO. 45712 Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

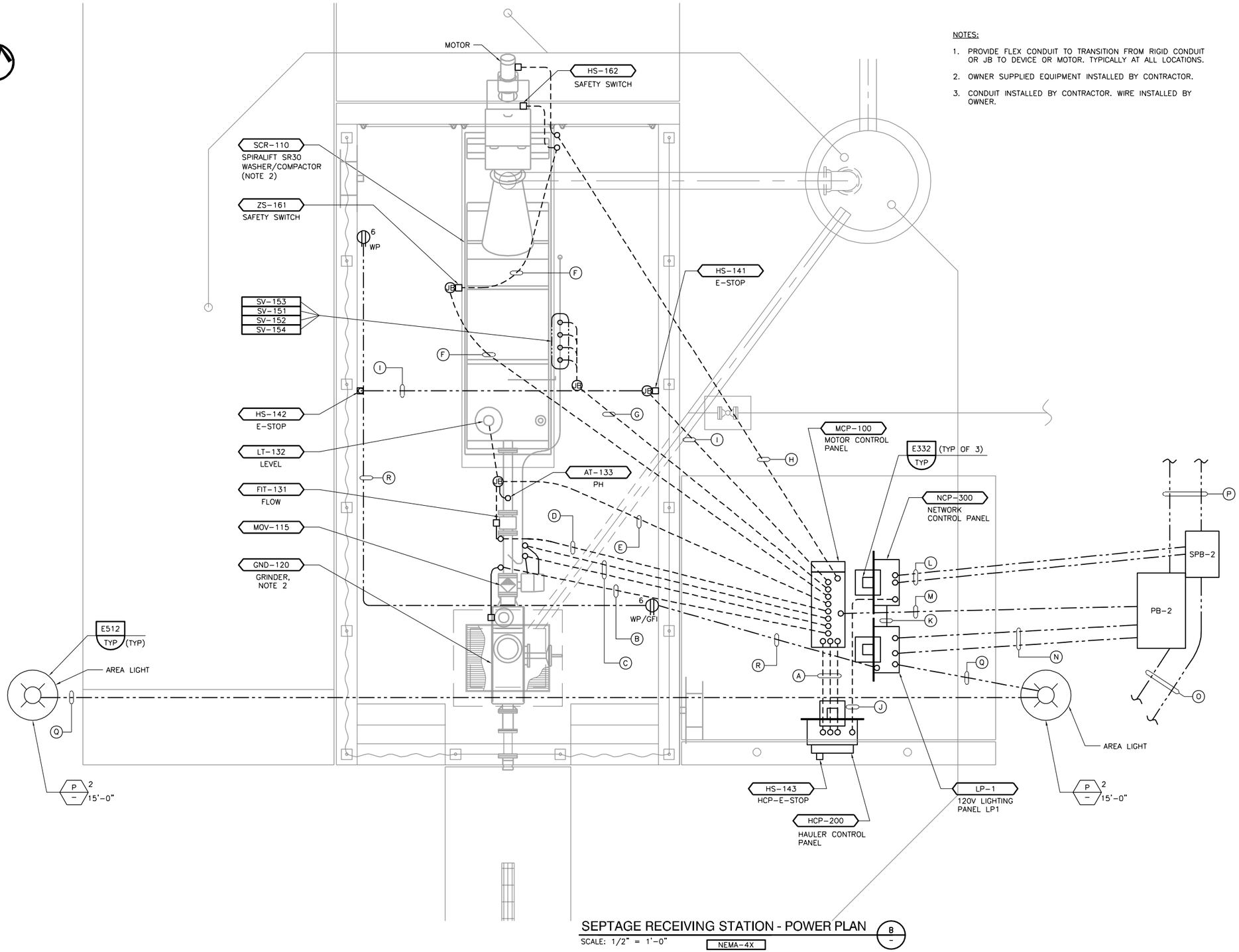
ELECTRICAL

SEPTAGE RECEIVING STATION
ELECTRICAL SITE POWER AND GROUNDING PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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DRAWING NO. E-03
SHEET NO. 20 OF 27

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NOTES:

1. PROVIDE FLEX CONDUIT TO TRANSITION FROM RIGID CONDUIT OR JB TO DEVICE OR MOTOR. TYPICALLY AT ALL LOCATIONS.
2. OWNER SUPPLIED EQUIPMENT INSTALLED BY CONTRACTOR.
3. CONDUIT INSTALLED BY CONTRACTOR. WIRE INSTALLED BY OWNER.

CONDUIT GROUPS

CONDUIT GROUPS (A)
1"C – N100, CAT-6a SHIELDED
1"C – A01, (2)#12, #12 GND
A02, (2)#12, #12 GND
1"C – S11, S12, S13, S14, (4)#14

CONDUIT GROUP (B)
3/4"C – P1, C13, (3)#12, #12 GND
(2)#14

CONDUIT GROUP (C)
1/2"C – A03, (2)#12, #12 GND
1/2"C – C44, C45, C46, C47, C48,
(6)#14

CONDUIT GROUP (D)
1/2"C – V19, (2)#12, #12 GND

CONDUIT GROUP (E)
1 1/2"C – S80, S82, IS01, (3) TSP
(6 CONDUCTORS WITH DRAIN)

CONDUIT GROUP (F)
1/2"C – S01, S02, S03, S04, S05,
S06, (6)#14

CONDUIT GROUP (G)
1"C – C51, C52, C53, C54, (8)#12

CONDUIT GROUP (H)
1"C – P2, C15, (3)#12, #12 GND
(2)#14

CONDUIT GROUP (I)
1/2"C – S13, S14, S15, S16, (4)#14

CONDUIT GROUP (NOTE 3) (J)
1"C – N200, CAT-6a SHIELDED

CONDUIT GROUP (K)
1/2"C – (2)#12, #12 GND

CONDUIT GROUP (NOTE 3) (L)
2"C – N200, CAT-6a SHIELDED
OR FIBER OPTIC
1"C – SPARE (TO GATE)

CONDUIT GROUP (NOTE 3) (M)
2"C – PP1-MB-2, (3)#6, #6 GND

CONDUIT GROUP (NOTE 3) (N)
1"C – LP1-2,-4, (2)#12, #12 GND,
2"C – PP3-MB-26,-28,-30 (4)#6, #6 GND

CONDUIT GROUP (NOTE 3) (O)
2"C – PP1-MB-2, (3)#6, #6 GND
2"C – PP3-MB-26,-28,-30 (4)#6, #6 GND
2"C – N200, CAT-6a SHIELDED
OR FIBER OPTIC

CONDUIT GROUP (NOTE 3) (P)
1"C – LP1-2,-4, (2)#12, #12 GND,
1"C – SPARE (GATE CONTROL)

CONDUIT GROUP (Q)
1"C – LP1-3, (2)#12, #12 GND

CONDUIT GROUP (R)
1"C – LP1-6, (2)#12, #12 GND

SEPTAGE RECEIVING STATION - POWER PLAN (B)

SCALE: 1/2" = 1'-0"

NEMA-4X

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — ARON E. RECHT — No. 8026 Exp. 9/30/26 — ELECTRICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — LARRY A. GARDNER — No. 45712 Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

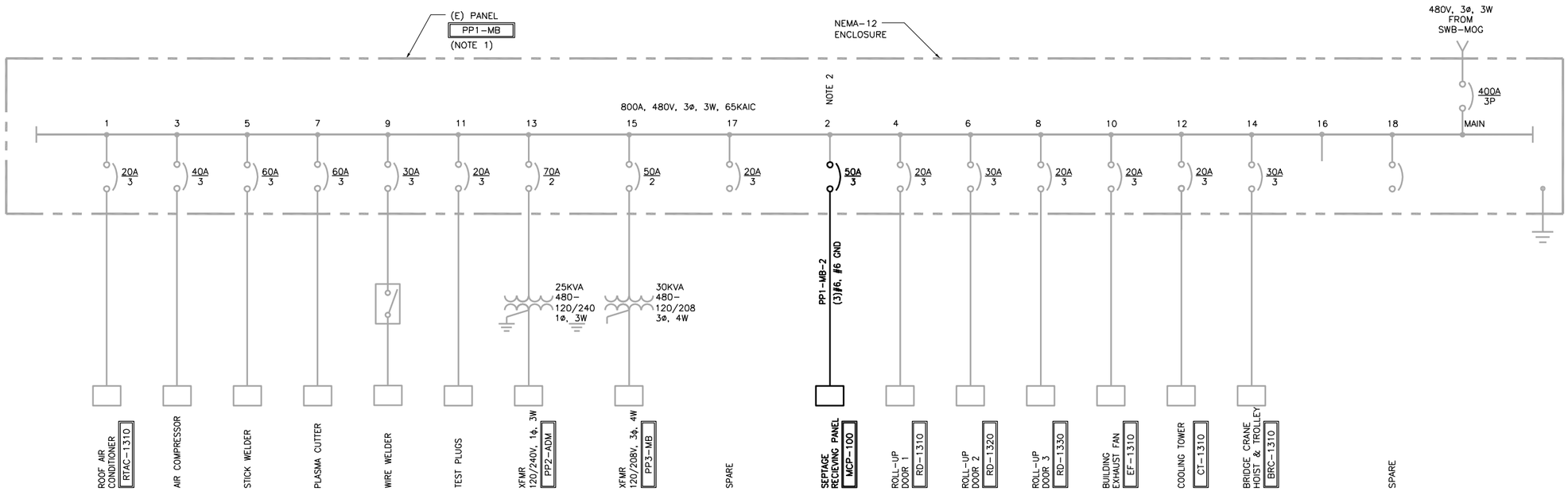
ELECTRICAL

SEPTAGE RECEIVING STATION
ELECTRICAL SITE POWER PLAN

VERIFY SCALES
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(E) PANEL PP1-MB - SINGLE LINE DIAGRAM

NOTES:

1. VERIFY ALL BREAKER SERVICES AND PROVIDE NEW PANEL SCHEDULE FOR THIS PANEL.
2. REPLACE (E) BREAKER.

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER LOUIS A. ROSE-RECUT No. 8026 Exp. 9/30/26 ELECTRICAL STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER ROBERT A. GARDINER No. 45712 Exp. 12/31/26 CIVIL STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
ELECTRICAL
(E) PANEL PP1-MB
SINGLE LINE DIAGRAM

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DRAWING SET No. 2025-208
DRAWING NO. E-05
SHEET NO. 22 OF 27

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PANEL PP3-MB | VOLTAGE/PHASE 208Y/120 VOLTS, 3 PHASE, 4W, 100% NEUTRAL | POLES 42 | MOUNTING SURFACE
LOCATION MAINTENANCE BUILDING | MAIN 100A CIRCUIT BREAKER, 3 POLE, 10,000 AIC | BUS 100A | CKT BRKS

LOAD	VOLTAMP ø A	ø B	ø C	WIRE	TRIP	CKT.	S/N A B C	CKT.	TRIP	WIRE	VOLTAMP ø A	ø B	ø C	LOAD
HOT WATER PUMP HWP-1310					20	1		2	20					COMPRESSOR DRYER UNIT
EXHAUST FAN EF-1320					20	3		4	20					HOT WATER HEATER WH-1310
EXHAUST FAN EF-1330					20	5		6	20					RCPT 230V - TEST PLUG FAB WORK BENCH
EXHAUST FAN EF-1340					20	7		8	20					
EXHAUST FAN EF-1350					20	9		10	20					RCPT - MOP SNK/BATH GFI
HVAC TEMPERATURE CONTROL PANEL HVAC-LCP-1310					20	11		12	20					SPARE
SPARE					20	13		14	20					SPARE
UPS-1310					40	15		16	20					SPARE
SPARE					30	17		18	20					SPARE
SPARE					20	19		20	20					SPARE
SPARE					20	21		22	20					SPARE
SPARE					20	23		24	20					SPARE
SPARE					20	25		26	**50**					**LP1 - SEPTAGE (NOTE 1)**
SPARE					20	27		28	**50**					
SPARE					20	29		30	**50**					
SPARE					20	31		32						SPARE
SPARE					20	33		34	20					SPARE
SPARE					20	35		36	20					SPARE
SPARE					20	37		38						SPARE
SPARE					20	39		40						SPARE
SPARE					20	41		42	20					SPARE
SUBTOTAL														
TOTAL				TOTAL VA =				AMPERES =						

(E) PANELBOARD PP3-MB - PANEL SCHEDULE

NOTES:

1. REPLACE EXISTING BREAKERS WITH NEW 3 POLE 50A BREAKER.

PANEL LP1 | VOLTAGE/PHASE 120/208V, 1PH, 4W | POLES 24 | MOUNTING WALL NEMA-4X
LOCATION SEPTAGE AREA | MAIN 50A | BUS 125A | CKT BRKS BOLT ON

LOAD	VOLTAMP ø A	ø B	ø C	WIRE	TRIP	CKT.	S/N A B C	CKT.	TRIP	WIRE	VOLTAMP ø A	ø B	ø C	LOAD
NCP-300	**1000**				20	1		2	20		2400			EXIT GATE
AREA LIGHTING		1000			20	3		4	20			2400		EXIT GATE
SPARE					20	5		6	20				1000	GFI PLUGS
SPARE					20	7		8	20					SPARE
SPARE					20	9		10	20					SPARE
					20	11		12	20					
					20	13		14	20					
					20	15		16	20					
					20	17		18	20					
					20	19		20	20					
					20	21		22	20					
					20	23		24	20					
SUBTOTAL	1,000	1,000									2,400	2,400	1,000	
TOTAL				TOTAL VA = 7,800							AMPERES = 25A			

PANEL LP1 - PANEL SCHEDULE NOTE 1

NEMA-4X

NOTES:

1. USE 1"C FOR CIRCUITS UNLESS OTHERWISE NOTED.
2. ALL CIRCUITS USE #12 WIRE WITH #12 GND UNLESS OTHERWISE NOTED.

LIGHTING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER	CATALOG No.	ALTERNATE MANUFACTURER	CATALOG No.	DESCRIPTION	LAMP	VOLTAGE	MOUNTING
P	LSI INDUSTRIES	XASUFTLED 64SSCWNE BRZPCI	CREE	APPROVED EQUAL	LED STYLE. LSI CROSS OVER LUMINAIRE TYPE 5 DISTRIBUTION-BRONZE-450MA-COOL WHITE-UNIV. VOLTAGE. PROVIDE BUTTON PHOTO CELL. PROVIDE 15 FOOT HIGH ALUMINUM TAPERED MOUNTING POLE AND BRACKET BRONZE FINISH ON POLE	LED	120/277	POLE

LIGHTING FIXTURE SCHEDULE

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA | DRAWN IG | CHECKED LA | DATE MAY 2026

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PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, ROBERT A. GARDNER, No. 45712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
ELECTRICAL
(E) PANEL PP3-MB AND LP1 PANEL
PANEL SCHEDULE AND LIGHT FIXTURE SCHEDULE

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SHEET NO. 23 OF 27

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480V
3 PHASE
PP1-MB-2
(3)#6, #6 GND,
NOTE 1

MOTOR CONTROL PANEL

MCP-100

| | | |

EQUIPMENT DESIGNATION PREFIXES

ATS	AUTOMATIC TRANSFER SWITCH
BLR	BLOWER
BF	BIOFILTER
BG	BUTTERFLY GATE
BP	BACKFLOW PREVENTER
BSN	BAR SCREEN
C	COIL
CFR	CHEMICAL FEEDER (LIME SLAKER, POLY-MER CHLORINATOR, SULFONATOR, ETC.)
CHR	CHILLER
COL	COLLECTOR
COM	COMMINUTOR
CMP	COMPRESSOR (AIR, GAS, ETC.)
CPT	COMPACTOR (SCREENINGS, ETC.)
CPU	COMPUTER
CTF	CENTRIFUGE
CV	CONTROL VALVE
DPR	DAMPER
DU	DRIVE UNIT
(E)	EXISTING
(F)	FUTURE
FCV	FLOW CONTROL VALVE
FLT	FILTER
FV	FLOW CONTROLLED VALVE
GDR	GRINDER
GEN	GENERATOR
HOA	HAND-OFF-AUTO
HOT	HAND-OFF-TIMER
HOP	HYDRAULIC OPERATOR
HOR	HAND-OFF-REMOTE
HST	HOIST
HTT	HEAT TRACE TAPE
HUM	HUMIDIFIER
INJ	INJECTOR (INDUCTOR)
LCV	LEVEL CONTROL VALVE
L/S	LIFT STATION
M	MOTOR
MCC	MOTOR CONTROL CENTER
MS	MECHANICAL SCREEN
MV	MANUAL VALVE
MH	MANHOLE (ELECTRICAL)
MME	MISCELLANEOUS MECHANICAL EQUIPMENT
MXR	MIXER
(N)	NEW
OCA	OPEN CLOSE AUTO
REC	RECEIVER
(R)	RELOCATE
PMP	PUMP
PCV	PRESSURE CONTROL VALVE (SELF-ACTING)
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PRV	PRESSURE REDUCING VALVE
PSV	PRESSURE SAFETY VALVE
PV	PRESSURE CONTROLLED VALVE
PVL	PRESSURE VESSEL
SCN	SCREEN
SG	SLUICE GATE
SLG	SLIDE GATE
SLR	SILENCER
SMP	SAMPLER
SOV	SOLENOID VALVE
SWB	SWITCHBOARD (ELECTRICAL)
SWGR	SWITCHGEAR
T	TANK
TB	TERMINAL BOX, BOARD, OR CABINET
TCV	TEMPERATURE CONTROL VALVE
TEL	TELEPHONE EQUIPMENT
TM	TIMER
TV	TEMPERATURE CONTROLLED VALVE
UV	ULTRA VIOLET DISINFECTION UNIT
V	VALVE
VFD	VARIABLE FREQUENCY DRIVE
WHR	WASHER

PIPING AND TUBING MATERIALS

ABS	ACRYLONTRILE BUTADIENE STYRENE TRUSS PIPE
ALM	ALUMINUM PIPE OR TUBING
ARP	ALUMINUM REINFORCED PLASTIC PIPE
BL	BLACK IRON PIPE
BPT	BRAIDED PLASTIC TUBING-PVC
CI	CAST IRON PIPE
CISP	CAST IRON SOIL PIPE
CMCP	CORRUGATED METAL CULVERT PIPE
CMH	CHEMICAL HOSE
CMP	CORRUGATED METAL PIPE
COP	COPPER PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE PIPE
CS	CARBON STEEL PIPE
DI	DUCTILE CAST IRON PIPE
ERP	EPOXY RESIN PIPE
FRP	FIBERGLASS REINFORCED PLASTIC PIPE
GS	GALVANIZED STEEL PIPE
HOSE	FLEXIBLE HOSE
HSI	HIGH SILICON IRON PIPE
KLS	PVDF LINED STEEL PIPE (KYNAR LINED TYPICAL)
KYN	PVDF (KYNAR ® TYPICAL)
MI	CARBON STEEL PIPE W/MALLEABLE IRON FITTINGS
NEO	NEOPRENE HOSE
NI	NICKEL ALLOY PIPE
NLS	NEOPRENE LINED STEEL PIPE
PEP	POLYETHYLENE PIPE
PETB	POLYETHYLENE TUBING
PLS	POLYPROPYLENE LINED STEEL PIPE
POP	POLYPROPYLENE PIPE
PRP	PHENOLIC RESIN PIPE
PVC	POLYVINYL CHLORIDE PIPE
PVC HOSE	POLYVINYL CHLORIDE HOSE
PVDF	POLYVINYLIDENE FLUORIDE PIPE
RBR	RUBBER HOSE
RCCP	REINFORCED CONCRETE CULVERT PIPE
RCP	REINFORCED CONCRETE PIPE
SAR	SARAN TUBING
SLH	SLUDGE HOSE
SLS	SARAN LINED STEEL PIPE
SS	STAINLESS STEEL PIPE OR TUBING
TEF	TEFLON TUBING
TI	TITANIUM ALLOY PIPE
TLS	TEFLON LINED STEEL PIPE
TYB	TYGON ® TUBING-BRAIDED
TYG	TYGON ® TUBING-UNBRAIDED

VALVE & ACCESSORY TAG

VXXXX	VALVE
EJXXXX	EXPANSION JOINT
HXXXX	HOSE
FXXXX	FILTER
SXXXX	STRAINER
SBXXXX	SPECTACLE BLIND
STXXXX	STEAM TRAP

FLOWS AND LINES

- NEW MAIN FLOW
- EXISTING MAIN FLOW
- FUTURE MAIN FLOW
- NEW SECONDARY FLOW
- EXISTING SECONDARY FLOW
- FUTURE SECONDARY FLOW

PROCESS ABBREVIATIONS

1W	POTABLE WATER
2W	NON-POTABLE WATER
3W	PLANT WATER
AA	AERATION AIR
CEN	CENTRATE
CSO	CHEMICAL SYSTEM
D	PROCESS DRAINAGE
DS	DIGESTED SLUDGE
EE	ENGINE EXHAUST
FA	FOUL AIR
FE	FINAL EFFLUENT
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FW	FILTER WASTE
HOCL	SODIUM HYPOCHLORITE
ML	MIXED LIQUOR
OSA	OUTSIDE AIR
PD	PUMPED DRAINAGE
PE	PRIMARY EFFLUENT
RAS	RETURN ACTIVATED SLUDGE
SD	STORM DRAINAGE
SE	SECONDARY EFFLUENT
TD	TANK DRAINAGE
TE	TERTIARY EFFLUENT
THS	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
WRP	WATER RECYCLE PLANT
WW	RAW WASTEWATER

EQUIPMENT TAG NUMBERS

MXXXX	AGITATORS, AERATORS
AHV-XXXX	AIR HANDLING SYSTEMS
RXXXX	CLARIFIERS, THICKENERS, SEPARATORS
FXXXX	FILTERS-VACUUM, PRESSURE, CENTRIFUGES
PMP-XXXX	PUMPS
TXXXX	TANKS
BLR-XXXX	BLOWER
CMP-XXXX	COMPRESSORS
MXR-XXXX	MIXERS
MSXXXX	MISCELLANEOUS

ELECTRICAL AND RELATED ITEMS

- SELECTOR SWITCHES
- VFD – VARIABLE FREQUENCY DRIVE
- EM – EMERGENCY POWER
- INTERLOCK
- PILOT LIGHT

ACTUATORS

- CYLINDER
- DIAPHRAGM-SPRING
- ELECTRO HYDRAULIC
- ELECTRO PNEUMATIC
- MOTOR
- SOLENOID
- POSITIONER * - TYPE
- SOLENOID VALVE

SYMBOLS

- MAGNETIC FLOW METER
- PNEUMATIC / AIR LINE
- ELECTRICAL SIGNAL
- SOFTWARE OR DATA LINK
- SIGNAL CONVERTER
- ELECTRIC SUPPLY OR AIR SUPPLY
- MOTOR
- PUMP OR BLOWER
- BLOWER/FAN
- METERING PUMP
- PROPELLER FLOW METER ELEMENT
- SUBMERSIBLE PUMP
- MIXER
- SNUBBER
- INTERLOCK
- COMPRESSOR
- DRAIN
- SOLENOID VALVE
- ULTRA SONIC LEVEL ELEMENT
- SUBMERSIBLE MIXER
- HOSE BIB
- FLOAT SWITCH
- UNDER WATER ELEMENT
- BUBBLER ELEMENT
- SELENOID AIR RELEASE VALVE
- FLEXIBLE COUPLING
- RING TYPE ISOLATOR
- SLIDE GATE
- AIR PRESSURE REGULATOR
- AIR FILTER
- DIAPHRAGM ISOLATOR
- PRIMARY EJECTOR
- REDUCER
- PITOT AIR FLOW METER
- PULSATION DAMPENER

INSTRUMENT OR SYMBOL DESCRIPTION

HOA	HAND/OFF/AUTO
LOR	LOCAL/OFF/REMOTE
LOS	LOCKOUT STOP
OL	OVERLOAD
OSC	OPEN/STOP/CLOSE
REM	REMOTE
RES	RESET
SS	START/STOP
STF	START FORWARD
STR	START REVERCE

VALVE SYMBOLS

- ANGLE
- BALL
- BUTTERFLY
- CHECK
- DIAPHRAGM
- GATE
- GLOBE
- KNIFE
- NEEDLE
- PINCH
- PLUG
- PRESSURE REDUCING
- RELIEF
- SQUEEZE
- THREE WAY
- FOUR WAY
- VACUUM BREAKER
- AIR RELEASE
- HOSE BIBB
- INTEGRAL BLOCK & BLEED
- DIAPHRAM

P & I DIAGRAM INSTRUMENT IDENTIFICATION

CODE LETTER	FIRST LETTER(S)		SUCCEEDING LETTER(S)		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT		
F	FLOWRATE	RATIO			
G	GAUGING		GLASS		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME			CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE
N	STATUS				
O	OPERATOR		ORFICE		OPEN
P	PRESSURE		POINT		
Q	QUANTITY	TOTALIZE			
R	RESET		RECORD		
S	SPEED	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		
V	VIBRATION			VALVE	
W	WEIGHT		WELL		
X	STATUS		TROUBLE/FAIL		
Y	MONITOR/CONTROL			COMPUTE/RELAY	
Z	POSITION			ACTUATE	

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	LOCATION NORMALLY NOT ACCESSIBLE TO OPERATOR	SECONDARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	SECONDARY LOCATION NORMALLY NOT ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS					
SHARED DISPLAY. SHARED CONTROL					
COMPUTER FUNCTION					
PROGRAMMABLE LOGIC CONTROL					

INPUT & OUTPUT SIGNALS TO PLC/RTU

- ANALOG INPUT
- ANALOG OUTPUT
- PULSE INPUT
- MODULATING OUTPUT
- DIGITAL INPUT
- DIGITAL OUTPUT

EQUIPMENT DESCRIPTION

XXXYYY – XXX = MECHANICAL EQUIPMENT DESIGNATION; YYY = MECHANICAL EQUIPMENT NUMBER

X-YYY – X = PIPING SIZE INCHES; YYY = PROCESS MATERIAL

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER: REGISTERED PROFESSIONAL ENGINEER, ROBERT A. HERWIT, No. 8026, Exp. 9/30/26, ELECTRICAL, STATE OF CALIFORNIA

PROJECT ENGINEER: REGISTERED PROFESSIONAL ENGINEER, CLINT A. GARDNER, No. 45712, Exp. 12/31/26, CIVIL, STATE OF CALIFORNIA

HERWIT ENGINEERING

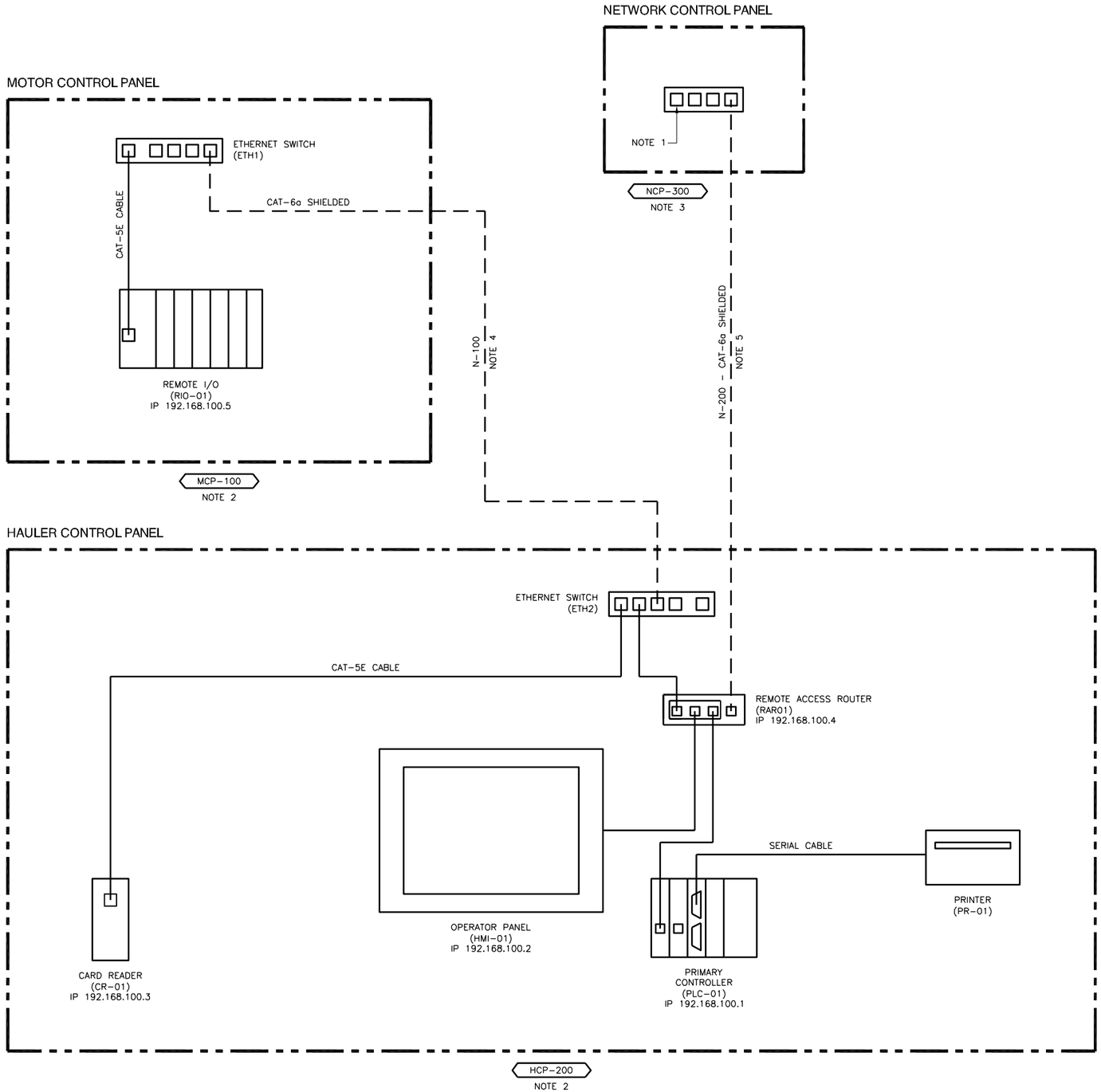
YUBA CITY

CITY OF YUBA CITY
SEPTAGE RECEIVING STATION PROJECT
INSTRUMENTATION
P&ID
SYMBOLS & ABBREVIATIONS

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRAWING NO. I-01
SHEET NO. 25 OF 27

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NOTES:

1. OWNER PROVIDED AND INSTALLED NETWORK EQUIPMENT.
2. OWNER PROVIDED AND CONTRACTOR INSTALLED PANEL.
3. CONTRACTOR PROVIDED AND INSTALLED EXTERIOR PANEL WITH BACK PANEL.
4. CONTRACTOR PROVIDED WIRE.
5. OWNER PROVIDED WIRE.

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — LOUIS A. ARCHICCIOUT — No. 8026 Exp. 9/30/26 — ELECTRICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — CURT A. GARDNER — No. 45712 Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

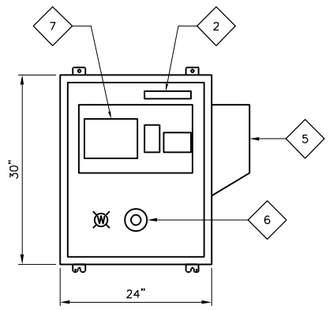
INSTRUMENTATION

MCP-100, HCP-200 AND NCP-300 PANEL LAYOUTS

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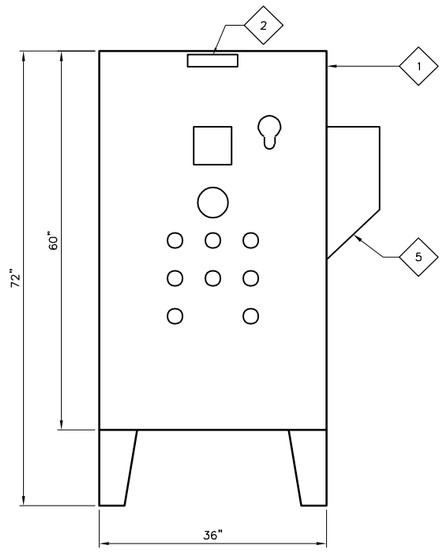
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DRAWING NO. I-02
SHEET NO. 26 OF 27

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ELEVATION - HCP-200

SCALE: NOT TO SCALE NEMA-4X NOTE 4

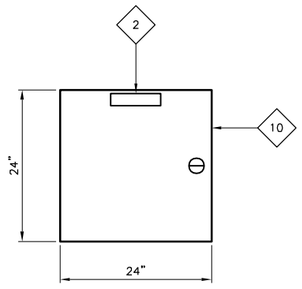


ELEVATION - MCP-100

SCALE: NOT TO SCALE NEMA-4X NOTE 4

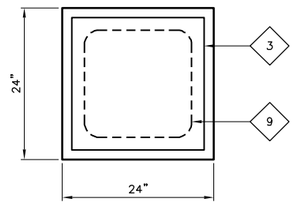
KEY NOTES:

1. FLOOR MOUNT TYPE NEMA-4X ST. STL. ENCLOSURE 72"H x 36"W x 12"D WITH BACK PLANE AND MOUNTING PANEL. SAGINAW OR EQUAL.
2. LAMICOID NAME PLATE WITH ST. STL. SCREWS PROVIDED AND INSTALLED BY CONTRACTOR.
3. BACK PLANE.
4. VENDOR MOTOR CONTROL PANEL MCP-100 AND HCP-100 ARE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR.
5. AC UNIT.
6. E-STOP.
7. HMI.
8. PROVIDED AND INSTALLED BY CONTRACTOR.
9. OWNER PROVIDED AND INSTALLED NETWORK EQUIPMENT.
10. 316 ST STL NEMA 4X ENCLOSURE. 24" x 24" x 12"D WITH BACK PLANE AND MOUNTING PANEL, LOCKABLE HINGED DOOR. SAGINAW OR EQUAL.



ELEVATION - NCP-300 OUTER DOOR

SCALE: NOT TO SCALE NEMA-4X NOTE 8



ELEVATION - NCP-300 INNER PANEL

SCALE: NOT TO SCALE NEMA-4X NOTE 8

REV.	DATE	BY	DESCRIPTION

FILENAME:

DESIGNED LA
DRAWN IG
CHECKED LA
DATE MAY 2026

DISCIPLINE ENGINEER — REGISTERED PROFESSIONAL ENGINEER — LESLIE A. ROSE — No. 8026 — Exp. 9/30/26 — ELECTRICAL — STATE OF CALIFORNIA

PROJECT ENGINEER — REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER A. GARDNER — No. 85712 — Exp. 12/31/26 — CIVIL — STATE OF CALIFORNIA

HERWIT ENGINEERING

YUBA CITY

CITY OF YUBA CITY

SEPTAGE RECEIVING STATION PROJECT

INSTRUMENTATION

MCP-100, HCP-200 AND NCP-300 PANEL LAYOUTS

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DRAWING NO. I-03
SHEET NO. 27 OF 27

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CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Finance/IT Department
Presentation By: Kaylayshia Byrd, Administrative Analyst II

Summary

Subject: Purchasing Policies and Procedures Manual Revisions

Recommendation: Adopt a Resolution approving the revised City of Yuba City Purchasing Policies and Procedures Manual and authorize the City Manager to implement and administer the updated policies and procedures

Fiscal Impact: There is no fiscal impact

Purpose:

To adopt revisions to the City of Yuba City Purchasing Policies and Procedures Manual to improve procurement efficiency, clarify purchasing authorities and administrative procedures, update procurement requirements, and ensure continued compliance with applicable laws and City purchasing practices.

Strategic Focus Area:

This staff reports supports the City Council’s strategic goal of Fiscal Responsiblity.

Background:

In January 2022, the City Council adopted comprehensive revisions to the City's Purchasing Policies and Procedures Manual to formalize purchasing practices, clarify procurement responsibilities, and update approval thresholds. Since implementation, staff have continued to evaluate procurement processes and identified opportunities to further improve efficiency, clarify administrative procedures, and align the policy with current operational practices.

The proposed amendments update procurement procedures, clarify purchasing authorities and approval processes, revise administrative provisions, and incorporate operational improvements identified through the City's ongoing use of the policy.

Analysis:

The City's Purchasing Policies and Procedures Manual establishes the framework for the procurement of goods and services, defines approval authorities, and provides guidance to City staff regarding purchasing requirements and internal controls.

Since the last comprehensive update, staff have identified opportunities to improve administrative efficiency, clarify procurement procedures, and align the policy with current operational practices. The proposed amendments provide additional clarification regarding procurement documentation, purchasing authorities, contract administration, approval workflows, and internal processing requirements.

The revisions also clarify procedures related to the administration of executed agreements and associated purchase orders. Under the proposed amendments, purchase orders issued pursuant to an agreement that has already been approved and executed by the authorized approving authority may be processed through established departmental authorization procedures, eliminating redundant approval steps while maintaining budgetary controls, contract limits, and existing approval thresholds.

Staff believes the proposed amendments will improve procurement efficiency, reduce administrative processing time, and maintain appropriate accountability and oversight for City expenditures.

Fiscal Impact:

There is no fiscal impact.

Alternatives:

1. Adopt the Resolution approving revisions to the Purchasing Policies and Procedures Manual as presented.
2. Direct staff to modify the proposed revisions and return with a revised Purchasing Policies and Procedures Manual for future Council consideration.
3. Decline to adopt the proposed revisions and maintain the current Purchasing Policies and Procedures Manual.

Recommendation:

Adopt a Resolution approving the revised City of Yuba City Purchasing Policies and Procedures Manual and authorize the City Manager to implement and administer the updated policies and procedures.

Attachments:

1. Attachment 1: Resolution Adopting Revisions to the Purchasing Policies and Procedures Manual
2. Exhibit A: Purchasing Policies and Procedures Manual Effective March 2022; Amended June 2026

Prepared By:
Kaylayshia Byrd
Administrative Analyst II

Submitted By:
Robert Bendorf
City Manager

ATTACHMENT 1

RESOLUTION NO. ___

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY APPROVING REVISIONS TO THE CITY OF YUBA CITY PURCHASING AND PROCEDURES MANUAL

BE IT RESOLVED AND ORDERED BY THE CITY COUNCIL OF THE CITY OF YUBA CITY AS FOLLOWS:

WHEREAS, Chapter 6 of Title 2 of the Yuba City Municipal Code authorizes the Purchasing Officer to establish and amend purchasing rules and regulations, subject to approval by the City Council; and

WHEREAS, the City Council adopted the current Purchasing Policies and Procedures Manual in January 2022 to provide guidance regarding the procurement of goods and services and to establish purchasing procedures and approval authorities; and

WHEREAS, staff has identified opportunities to update provisions of the Purchasing Policies and Procedures Manual while maintaining appropriate internal controls and oversight; and

WHEREAS, the proposed revisions to the Purchasing Policies and Procedures Manual are administrative in nature and are intended to improve procurement processing and contract administration practices.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Yuba City hereby:

1. Approves the revised Purchasing Policies and Procedures Manual attached hereto as Exhibit A.

2. Authorizes the City Manager or designee to administer and implement the Purchasing Policies and Procedures Manual.

3. Authorizes the City Manager or designee to make minor administrative, formatting, and non-substantive corrections as necessary, provided such changes do not alter the intent of the policies approved by this Resolution.

The foregoing Resolution was duly and regularly introduced, passed, and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

Marc Boomgaarden, Mayor

ATTEST:

Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY:

Shannon Chaffin, City Attorney
Aleshire & Wynder, LLP

Attachment(s):

A. Exhibit A – Purchasing Policies and Procedures Manual Effective March 2022; Amended June 2026

EXHIBIT A



PURCHASING POLICIES AND PROCEDURES

Continuity
Uniformity
Fairness
Equity
Responsibility

City of Yuba City Purchasing

CITY OF YUBA CITY PURCHASING POLICES AND PROCEDURES
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CITY OF YUBA CITY
PURCHASING POLICIES AND PROCEDURES

Effective March 2022

SECTION 1: PURPOSE AND POLICY STATEMENT

1-1. Purpose:

The purpose of these policies and procedures is to provide the City of Yuba City a means of assuring continuity and uniformity in its purchasing practices; to provide for the fair and equitable treatment of all persons involved in the procurement process; to define the responsibilities of the Purchasing Officer, Finance Department, Engineering Division, City Clerk, and operating departments; and to develop a purchasing manual.

The guiding principle of these purchasing procedures shall be to comply with state law, the City's Municipal Code, and the adopted budget on all purchases and contracts.

Guidelines for purchasing materials, supplies, and services are provided herein and the "City of Yuba City Procurement Card Handbook," which is available on CityNET.

1-2. Policy Statement:

The policies and procedures contained herein are promulgated under the authority of the Yuba City Municipal Code Title 2, Chapter 6, Section 24, which states: "The Purchasing Officer shall establish, and from time-to-time amend, all rules and regulations authorized by this chapter and others necessary to its operation. Such rules and regulations, and amendments thereto, shall be subject to the approval of the Council by resolution."

The Finance Director is charged with the responsibility and authority for coordinating and managing the procurement of the City's materials, supplies, and services.

Procedures outlined herein are to be followed by the Finance Department and operating departments when procuring materials, supplies, and services.

SECTION 2: ETHICS, GIFTS, AND UNAUTHORIZED PURCHASES

2-1. Code of Ethics:

1. To regard public service as a sacred trust, giving primary consideration to the interests of the public agency and citizenry that employ us.
2. To purchase without prejudice, seeking to obtain the maximum value for each dollar expended.
3. To avoid unfair practices, giving all qualified vendors equal opportunity.
4. To honor our obligations and require that obligations to our public agency be honored.

5. To accord vendor representatives courteous treatment, remembering that these representatives are important sources of information and assistance in solving our purchasing needs.
6. To refuse to accept any form of commercial bribery and prevent any appearance of so doing.
7. To be receptive to counsel from our colleagues and to cooperate with them to promote a spirit of teamwork and unity.
8. To conduct ourselves with fairness and dignity, and to demand honesty and truth in the purchasing process.
9. To strive for greater knowledge of purchasing methods and of the materials we purchase.
10. To cooperate with all organizations and individuals involved in activities designed to enhance the development of the purchasing profession, remembering that our actions reflect on the entire purchasing profession.

2-2. Gifts and Special Considerations:

These policies and procedures shall not be used by a City employee to procure, or assist in procuring, any materials, supplies, services, or equipment for the personal use of any employee, officer, or official of the City.

City employees, officers, or officials by virtue of position are not entitled to any special consideration from vendors and merchants in their personal affairs, nor are they to attempt to procure materials for personal use or for any other person.

City employees shall not solicit or accept gifts, entertainment, or anything more than $50.00 in value from vendors or others. Examples of acceptable gifts might include pencils, scratch pads, and other advertising supplies.

2-3. Unauthorized Purchases:

Except for procurement card purchases, emergencies, or other authorized exemptions, no purchases shall be made without an authorized purchase order. Purchases without an authorized purchase order or otherwise falling within an exception are void and not considered an obligation of the City. See Section 9 (Special Procurement Circumstances) for further information on exemptions from the purchase order process.

Invoices without an authorized purchase order, except for procurement card purchases and other authorized exemptions per Section 9, may be returned to the vendor unpaid at the discretion of the City.

The person ordering the unauthorized purchase may be held personally responsible for the error per the Personnel Rules and Regulations Section 1.16 – Discipline.

SECTION 3: PURCHASING OFFICER RESPONSIBILITIES

When there is reference to the Purchasing Officer, it refers to the City Manager or their designee. The Purchasing Officer duties are generally delegated to the Finance Director or their designee. The Purchasing Officer shall:

1. Be charged with the responsibility and authority for coordinating and managing the procurement of the City's materials, supplies, and services.
2. Negotiate, purchase, and/or contract for the City the needed quality in equipment, supplies, and services from the lowest responsible bidder.
3. Endeavor to promote full and open competition on purchases when at all possible.
4. Monitor and ensure (or cause to be) that no single professional services consultant or sole-sourced vendor is paid more than $100,000 per fiscal year without prior Council authorization.
5. Revise and maintain these policies and procedures as needed to ensure Municipal Code compliance and protect the interest of the City of Yuba City.
6. Ensure adequate funding is secured in the fund accounts against which any purchase is to be charged.

When there is reference to the City Manager by title, it refers to the City Manager in their role as the Chief Executive Officer and their authority to approve and sign contracts and purchase orders.

SECTION 4: FINANCE DEPARTMENT RESPONSIBILITIES

The Finance Department shall ensure that the purchasing functions operate efficiently and assist operating departments. Finance shall:

1. Maintain open communication with operating departments and become acquainted with the needs of the various City departments and divisions.
2. Support department/division requisitions.
3. Assist purchasing, as needed, materials, supplies, and services required by any department/division.
4. Follow-up, expedite, and resolve problems with orders as requested.
5. Identify, evaluate, and utilize purchasing arrangements which best meet the needs of the City (e.g., cooperative purchases, blanket purchase orders, contractual agreements, etc.)
6. Assist operating departments with research and recommendations for developing specifications, and review specifications for completeness of information and open and competitive language.
7. Issue purchase orders to the requesting operating departments after completion of all required procurement processes.
8. Recommend revisions to purchasing procedures when necessary and keep informed of current developments in the field of purchasing.

9. Act as the City's agent in the disposal and transfer of surplus materials. The Finance Department may designate the operating departments to assist in or conduct this process.
10. Prescribe and maintain all forms and records necessary for efficient operation. The most current and acceptable mandatory and voluntary forms and templates shall be readily accessible to the operating departments on CityNet. The Standard Agreement and Professional Services Agreement templates shall be as approved by the City Attorney.
11. Maintain approved direct pay vendor list.

SECTION 5: PUBLIC CONTRACT CODE

The City's Engineering Division of the Public Works Department is the focal point for all "public projects." As per City Municipal Code 2-6.02(d) (Public project):

> The City elects to be subject to the Uniform Public Construction Cost Accounting Act as set forth in Section 22000 et seq. of the Public Contract Code ("Act"), and the uniform construction cost accounting procedures as set forth in said Act. Public project shall be as defined in the Act and shall be performed or awarded in accordance with the Act as the Act now reads or as hereinafter amended.

5-1. Engineering Division Responsibilities:

1. Maintain a bid numbering system to be used citywide for all informal and formal Public Contract Code bids.
2. Maintain the City's required public record for all Public Contract Code bids.
3. Mail a written notice in November, of each year, to construction trade journals/exchanges in accordance with the Cost Accounting Polices and Procedures Manual of the California Uniform Public Construction Cost Accounting Commission.
4. Maintain a Public Works construction projects formal and informal bidding matrix.
5. Assign a project lead for all Public Works formal bid projects being conducted for the City.
6. Have a representative attend their bid opening to be held publicly.

SECTION 6: CITY CLERK RESPONSIBILITIES

City Clerk or designee shall:

1. Receive and hold Finance formal and Public Contract Code bids prior to the bid opening.
2. Date and time stamp bids at the time of receipt. Bids will also be logged into a tracking system devised by the Office of the City Clerk.
3. Open and read bids publicly at the location, date, and time specified.

4. Maintain and publicly post the official bid clock; the clock shall be clearly visible and marked.

SECTION 7: OPERATING DEPARTMENTS RESPONSIBILITIES

Any department that utilizes the goods and/or services purchased under a requisition shall be referred to as an operating department. Operating departments shall:

1. Maintain open communication with the Finance Department.
2. Monitor for any problems with vendor relations, shipping, (e.g., damaged goods, late delivery, wrong items delivered, incorrect quantity delivered, etc.) and any situations and/or concerns as necessary, in order to follow-up and resolve the problem.
3. Review and update annually, or as needed, an authorized signature list designating those individuals who are delegated the authority to sign purchase orders, Request for Payment forms, and invoices eligible for payment and their specified dollar limits. The Department Head shall provide this authorized signature list to the Purchasing Officer or designee on the form provided on CityNet.
4. Anticipate requirements sufficiently in advance, allowing adequate time to obtain materials, supplies, and services in accordance with the best purchasing practices.
5. Provide detailed and accurate specifications to ensure materials, supplies, and services obtained are consistent with expectations and requirements.
6. Coordinate and establish vendor relations, locate vendors, and evaluate vendor performance, bids, and responses.
7. Strive to obtain the highest quality goods consistent with operational needs, from the most responsible bidder, offering a price that is the most advantageous to the City.
8. Prepare purchase orders/requisitions carefully and properly in accordance with instructions; submit purchase requisitions to the Finance Department through the City's finance management software (Pentamation at time of policy approval).
9. Minimize emergency and sole source purchases and, when such purchases are necessary, fully comply with the Municipal Code and this policy, including obtaining City Council or City Manager approval whenever necessary.
10. Make written recommendations, as required, based upon specification criteria, as well as perform reference checks to assist in determining lowest responsible bidder/proposer. Present a written memorandum to Finance when less than three quotes have been received or when not awarding to the lowest responsible vendor.
11. Ensure adequate funding is available in the fund accounts against which any purchase is to be charged.
12. Authorized individuals may purchase materials, supplies, and services by small purchase order or procurement card of a value up to $5,000. Departments must exercise reasonable prudence in seeking price quotes when purchasing such items. All such purchases shall be made with funds in an unencumbered appropriation.

SECTION 8: PROCUREMENT PROCEDURES

The primary purchasing objective is to obtain suitable goods, services, and construction at economic prices, as these acquisitions are direct costs to the taxpayer. The Municipal Code and purchasing policy require competition for all purchases over $5,000 and sealed competitive bids for over $100,000.

1. Bidding limits are generally "per order," and orders are not to be split to circumvent the specified limits.
2. The estimated full-value cost of the item plus tax before any discount is the amount to be considered in determining bidding requirements. Even though the net purchase price could be lower than the bid thresholds, the asset value would be the full price of the item.

All purchases of supplies, equipment, and technical/maintenance services which qualify as part of a public project as defined by the Uniform Construction Cost Accounting Act shall be made in accordance with the Public Contract Code and Municipal Code Section 2-6.02. (see Section 5).

8-1. Informal Procurement:

The bidding limits below refer to supplies and technical/maintenance services and do not include professional/consultant services (see Section 10) or "public projects" (see Section 5). The bidding limits are below.

8-1.1. Bidding Limits and Requirements:

Bidding Limit	Approving Authority	Procurement Requirement	Document Retention
Up to $5,000	Authorized staff	No competition required	No separate retention – invoice should be attached to small PO or procurement card report for Accounts Payable
$5,000.01 to $25,000	Department Head	Informal bid (3 quotes if possible) OR Sole Source Justification approved by Department Head	Retained by operating department with purchase order
$25,000.01 to $50,000	Finance Director Department Head	Informal bid (3 quotes if possible) OR Sole Source Justification approved by Department Head	Retained by Finance with record of purchase order
$50,000.01 to $100,000	City Manager Finance Director Department Head	Informal bid (3 quotes if possible) OR Sole Source Justification approved by City Manager	Retained by Finance with record of purchase order

8-1.2 Informal Procurement Rules

1. Documents to be retained include written quotations and/or sole source justification, a copy of the agreement, and other associated required documents as applicable. Retention shall be in accordance with the City's retention guidelines. Original contracts shall be given to the City Clerk's office for retention.
2. Small purchase order or procurement card systems may be used for procurements up to $5,000; above $5,000 must use large purchase order system.
3. Staff procuring items via small purchase order or procurement card must be approved by the Department Head up to an appropriate procurement limit via the authorized signatures list maintained by the Finance Department.
4. Purchases that in total exceed a bidding limit are not to be split in order to obtain equipment, materials, or services under a lesser level of approval and procurement requirements.
5. A Request for Quotation form is recommended, though not required, for any informal bid above $25,000, and should be accompanied by specifications, insurance requirements, and contract agreement as applicable.

8-1.3. Justification:

Whenever the bidding/proposal process is dispensed with or the lowest bidder is not used, recommendation and justification for doing so shall be in writing and forwarded to the Finance Department at the time the requisition is prepared. It shall be signed by the requesting Department Head.

8-2. Formal Procurement Over $100,000 (Not for Public Projects)

1. Formal procurement process is required.
2. Competitive bidding is required unless otherwise authorized in these policies and procedures.
3. Written sole source justification can be used in certain circumstances with City Council approval, as per Section 9-3.
4. City Council approval is required.
5. Formal bids for public projects, including associated dollar thresholds, shall be done in accordance with Public Contract Code Section 22030 et seq., as per Section 5 of this policy.

8-2.1. Formal Bids:

Formal quotations are written bids or proposals requiring a formal closing time/date. Public notices are posted on the City's website and/or advertised in the local newspaper, at least ten days prior to the opening of the bids. When advertised in the newspaper, invitations for bid will be published at least two times. Formal bids are opened in public.

8-2.2. Formal Proposal Process:

The formal proposal process may be used in procurements involving complicated and performance-type specifications which may require involved negotiations or communications with vendors to clarify proposals submitted. The proposal process should be utilized in negotiated procurements or those procurements where the answer to a certain approach or a specific item necessary to satisfy the City's needs is unknown. Public notice advertisements requesting invitations for proposal will be posted on the City's website and/or published in the local newspaper at least two times; the first insertion must be at least ten days prior to the opening date. Formal proposals are made public upon execution of a signed contract.

8-2.3. Lowest Responsible Bidder:

Bids will be awarded to the responsive bidder who submits the lowest responsible bid that is most advantageous to the City and is consistent with the requirements of this procurement policy. The term "lowest responsible bidder" as used in the City's bidding documents shall mean the lowest bidder whose offer best corresponds in quality, fitness, and capacity to the requirements of the proposed work or usage.

Sellers, vendors, suppliers, and contractors of supplies and equipment who maintain places of business located within the limits of the City shall be given preference if quality, price, and service are equal. In awarding the purchase, staff may consider the benefit derived by the City from sales tax revenues received by it in tabulating the lowest responsive bidder.

In determining the "lowest responsible bidder," the following elements shall be given consideration (in addition to price):

1. The ability of the product offered to provide the quality, fitness, and capacity for the required usage.
2. The ability, capacity, and skill of the bidder to perform the contract or provide the service required.
3. The character, integrity, reputation, judgment, experience, and efficiency of the bidder, particularly with reference to past purchases by the City.
4. Whether the bidder can perform the contract and/or deliver the materials, supplies, and services within the time required.
5. The quality of performance and/or quality of products provided in previous contracts or services.

6. Other information secured and having a bearing on the decision to award the contract.
7. Continuity of service.

8-2.4. Responsiveness:

A responsive bid is one which is in substantial conformance with the requirements of the invitation to bid, including specifications and the City's contractual terms and conditions. Bidders who substitute terms and conditions or who qualify their bids in such a manner as to nullify or limit their liability may be considered a non-responsive bidder and reject on those grounds. Conformance with the requirements of the invitation to bid may also include, but is not limited to, completion of forms, inclusion of references and attachments, and completion of required responses.

8-2.5 Rejection of Bids/Proposals:

The authority to reject is based on the authority to award. The City of Yuba City reserves the right: (1) to reject any or all bids or any part thereof and (2) to waive any informalities and/or negotiate minor deviations to the bid with the successful firm. The City of Yuba City's decision shall be final.

8-2.6. Late Formal Bids/Proposals:

Formal bids or proposals submitted after the designated closing time shall be returned unopened and not accepted.

8-2.7. Tie Bidders:

If two or more bids are received which are in all respects equal, the City Council may award to the local vendor. If both are local vendors or none are local vendors, City Council may draw lots, re-bid, or the award may be made to the one deemed in the best interest of the City.

8-3. Technical/Maintenance Services:

Services of a general nature (as opposed to professional/consulting services) shall be contracted by following a Request for Proposal or Bid process. The method of selection shall be determined by the Purchasing Officer and may include both qualification of the service provider and cost of the service. If it is determined by the operating department in consultation with the Purchasing Officer that all vendors providing a service classification can equally provide the service satisfactorily, a bid process would be appropriate; however, if factors other than price need to be considered in awarding the contract, a proposal process may be used.

Proposals evaluated by the City for technical/maintenance services should be based on a combination of qualifications and cost. Examples of areas other than price that may be

important in awarding the contract include: experience level, competence, resources/equipment, staffing levels, service availability/time factors, and other qualifications identified by the operating department responsible for recommending the service contract. Following committee interviews and selection, staff may further refine the scope of work and additional cost negotiations may take place.

The bidding limits and requirements are the same for technical/maintenance services whether the vendor was selected by bid or proposal.

An executed Standard Agreement and documents provided by the vendor meeting the City's insurance requirements are required for any services that will be provided to the City.

8-4. Standard Agreement

All general services (not professional services) must use a Standard Agreement approved by the City Attorney. Work should not commence until all documentation has been acquired and the agreement and purchase order have been executed by the appropriate parties of the City, as determined by the dollar limits and responsibilities outlined above.

Standard Agreements must include the following:

1. Fully executed agreement by all parties
2. Specification(s), quotes, and/or sole source justification
3. Insurance documentation meeting the City's insurance requirements

The City shall, whenever possible, use the City agreement form as approved by the City Attorney, available on CityNet. Should another agreement be considered for technical/maintenance services, the agreement will require City Attorney review and approval as to form prior to execution by the City.

Execution of a contract by the City Manager shall constitute authorization for issuance of purchase orders necessary to implement the approved agreement. Purchase orders issued pursuant to a fully executed agreement approved by the City Manager may be processed and approved by authorized personnel designated through the City's authorized signature process and shall not require additional City Manager approval, provided:

1. The purchase order is within the approved scope and term of the agreement;
2. The purchase order does not exceed the approved contract amount;
3. Adequate budget appropriations exist; and
4. No material modification of the agreement is being made.

Any amendment, change order, or increase in compensation requiring approval under this Policy shall continue to be subject to the applicable approval authority.

The City Attorney shall review and approve as to form all Standard Agreements prior to City Council approval for all purchases over $100,000.

8-5. Blanket Purchase Orders:

Blanket purchase orders provide equipment or supplies on an as-needed and/or over-the-counter basis in unspecified amounts from a selected vendor. Blanket purchase orders provide a mechanism whereby items which are uneconomical to stock may be purchased quickly, allowing operations timely access to necessary materials. Blanket purchase orders are valid for the current fiscal year. Blanket purchase orders shall not be used to purchase capital assets.

Once a blanket purchase order is issued to a vendor, any authorized City employee may contact the vendor directly to place orders per the terms and conditions specified in the blanket purchase order

The Finance Department will review blanket purchase order requests based upon the following criteria:

1. Geographic location
2. Responsiveness and capabilities
3. Average dollar value and type(s) of items to be purchased
4. Frequency of need
5. Vendor pricing methodology

Blanket purchase orders do not take the place of competitive quote, bid, or proposal processes.

8-6. Changes to and Cancellation of Purchase Orders:

The operating department will notify Finance when initiating changes which alter the purchase order. Purchase orders that need to be canceled or closed must be forwarded to Accounts Payable. The last payment against a purchase order that does not increase the purchase order total by 10% can be processed without obtaining a purchase order change order.

The City Manager will approve any change orders that have the purchase order total amount exceed $50,000, up to $100,000. Change orders cannot be requested that exceed Council-approved appropriations or Council contract award amounts without additional Council authorization.

SECTION 9: SPECIAL PROCUREMENT CIRCUMSTANCES

9-1. Finance Department Procurements

The Finance Department is charged with the duty to contract for purchase of the following equipment, materials, and services:

1. New or replacement vehicles or equipment
2. Items purchased from state contracts
3. Compute hardware and software (through the Information Technology Division)

4. Other items as may be determined in the future
5. When it is in the best interest of the City to negotiate an extension of an existing contract for supplies or technical services, based on satisfactory performance. Such negotiated price must be fair and reasonable. This shall also apply to products or services purchased through prior recent bidding.

9-2. CDBG and Other Applicable Federal Grants:

In compliance with the City's Community Development Block Grant, HOME funds, and other applicable federal funds administered by the United States Department of Housing and Urban Development (HUD), procurement procedures shall comply with federal regulations (24 CFR 85.36). The City will follow the Office of Management and Budget Guidance 2 CFR 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

9-3. Sole Source Purchases:

When competitive quotations for goods and services are not possible, such purchases shall be made through negotiated procurement. Sole source purchases may require City Manager or City Council approval, based upon procurement limits and Municipal Code requirements.

A sole source justification form must be signed by the requestor's Department Head and City Manager (if applicable), then forwarded to the Finance Department and filed to justify the sole source purchase. Sole-source specifications should be avoided whenever possible as they minimize or eliminate competition.

When the use of said sole-source vendor is expected to be repeated or ongoing, the operating department may indicate that it is a "recurring" sole source on the sole source justification form. The sole source justification shall then be valid for three years from date of approval by the Department Head.

9-3.1. Sole Source is Appropriate When:

1. The requested product is an integral repair part or accessory compatible with existing equipment and is only available from one vendor.
2. The requested product has unique design/performance specifications or quality requirements which are essential to department operations and are not available in comparable products.
3. Only known manufacturer of this product.
4. The requested product is one with which department staff have specialized training and/or extensive expertise. Retraining would incur substantial cost in time and/or money.
5. Only vendor authorized to sell/service this product in our region.
6. Upgrade to existing software. Available only from the producer of this software who sells on a direct basis only.
7. Emergency purchase.
8. Public project procurements under the requirements established by Public

Contract Code Selection 22032(a).

9. Special Situations as they arise.

9-3.2. City Manager Approval:

Sole source requests between $50,000.01 and $100,000 require the approval of the City Manager.

9-3.3. City Council Approval:

Sole source requests over $100,000 require the approval of the City Council.

9-4. Emergency Purchases up to $100,000 (Not for Public Projects):

Emergency purchases may be made without the benefit of competitive bidding when time is of the essence. Emergency purchases should be made only for the following reasons: (1) to preserve life, health, or property; (2) upon a natural disaster; (3) to correct or forestall a shutdown to maintain essential public services; or (4) other unforeseeable events (as authorized by the City Manager). Emergency purchases are not valid for contrived urgencies resulting from lack of planning and organization. Since emergency orders do not normally provide the City an opportunity to obtain competitive quotes, nor properly encumber funds, such orders should be kept to an absolute minimum. Emergency purchases shall be approved by the Department Head or designee.

9-5. Emergencies Over $100,000 (Not for Public Projects):

Emergency purchases over $100,000 require the approval/signature of the City Manager. The City Manager shall provide a report after any emergency purchase over $100,000 at the next City Council meeting following the emergency purchase.

9-6. Emergency Public Projects:

Public projects shall be completed according to Public Contract Code 22050 and the City's Municipal Code Section 2-6.15.

9-7. Cooperative Purchases:

The City may participate in purchases and contracts conducted by other political jurisdictions, provided that the cooperative agreement is established following a competitive bid process. In a cooperative purchase, one agency represents several agencies by soliciting bids including the needs of the other agencies in the bid specifications. This higher product volume may result in lower unit cost for all agencies, and also reduces the time and cost of the City administering its own bid process.

Needed documentation includes:

1. Copy of the other jurisdiction's bid document(s)
2. Any Board or Council action awarding the contract

3. The contract documents

The City Manager may authorize the award of cooperative purchase agreements for amounts not more than $100,000; City Council approval is required for the award of any cooperative purchase exceeding $100,000.

9-8. Piggyback onto Existing Contract:

"Piggybacking" is the use of an existing contract for goods between another government agency and a vendor for the purchase of those same goods. When piggybacking onto a contract, the City must use the terms of the contract and price of the item must be as specified in the contract or awarding document. The contract for consideration must have been awarded through a competitive bidding process prepared and awarded by another local, state, or federal government agency.

Needed documentation includes:

1. Copy of the other jurisdiction's bid document(s)
2. Any Board or Council action awarding the contract
3. The contract documents

The City Manager may authorize the award of piggyback purchases for amounts not more than $100,000; City Council approval is required for the award of any piggyback purchase exceeding $100,000.

9-9. Exemptions from Obtaining a Purchase Order:

The Finance Department shall maintain an approved direct pay list for which no purchase order is required due to unique purchasing circumstances, such as invoices from government agencies, utility providers, and subscription services.

The following is a non-inclusive list of the direct pay categories and/or vendors at the time of policy adoption:

- Actuarial studies
- Advertising
- Assessment district administration costs
- Attorney services
- Bond issuance costs (bond counsel, rating agency fees, and trustee fees)
- Cafeteria plan administration
- CDBG and Home Rehabilitation Loans
- Claim settlements (for liability claims)
- Conference or seminar registration
- Copy machine maintenance and leasing under contract
- Debt service payments
- Department of Health Services

- Department of Water Resources
- Deposit refunds
- Document destruction
- Downtown Business Improvement District remittance of cash receipts
- Employment Development Department
- Family Intervention Team program expenditures
- Feather River Air Quality Management District
- Fingerprinting (Department of Justice)
- Fingerprinting (Sutter County – Live Scan)
- Fire Department stipend checks
- Fuel for storage tanks
- General Liability insurance premiums
- Gilsizer Drainage District
- Housing consultant
- Land/property
- Lobbying activities
- Meals (per diem or travel reimbursement)
- Membership dues
- MuniFinancial
- Net 5 purchases (Secretary, City of Marysville)
- Office equipment O&M
- Office supplies (consumable only)
- Parking Citation Hearing Officer
- Payroll deduction remittances
- Petty cash reimbursements
- Postage & freight
- Pre-employment physicals, medical blood, DATCO (substance abuse testing)
- Refunds
- Retirement administration: Phase II Systems for PARS trust administration
- State Board of Equalization (diesel fuel tax, sales and use tax)
- State Division of Administrative Services (seismic fees)
- State Water Resources Control Board
- Subdivision Agreement reimbursements
- Subscriptions
- Supplies or refreshments reimbursement
- Sutter-Yuba Mosquito Vector Control District
- Teambuilding (Amistad Associates)
- Telephone
- Temporary help (personnel agency)
- Training programs
- Travel & meetings
- Trustee fees
- Tuition reimbursements
- Uniform rental and cleaning (under contract)
- Utilities

- Vehicle allowance
- Water delivery service
- Yuba-Sutter Economic Development Corporation

An authorized signature and appropriate budget number(s) should be provided by the purchaser to Accounts Payable for invoices up to $5,000. Invoices above $5,000 should be accompanied by a check request form, approved by the Department Head.

SECTION 10: PROFESSIONAL SERVICES

10-1. Definition:

Those services by independent consultants such as legal, engineering, programming, planning, environmental, economic, financial, testing, specialized temporary employee services, medical, dental, accounting, surveying, landscape architecture, advertising, design, etc., are considered to be "professional services". This may also include services requiring peculiar or specialized abilities which by state law do not require competitive bidding.

10-2. Operating Department Responsibilities:

1. Prepare specifications or scope of work.
2. Solicit, review, and select qualified consultant/firm.
3. Provide written documentation justifying selection of the successful consultant/firm. Staff may utilize the Professional Services Justification form on CityNet.
4. Prepare a City Professional Services Agreement and obtain consultant's signature.
5. Compile all exhibits/attachments described or referenced in the contract.
6. Secure and review required insurance documents for conformance to City contract requirements.
7. Submit the contract to the City Attorney for review and approval, if applicable.
8. If between $50,000 and $100,000, obtain City Manager approval.
9. If over $100,000, obtain Council approval.
10. Submit requisition to Finance to issue a purchase order.
11. Submit original signed contract, complete with exhibits, attachments, and insurance, to the City Clerk.
12. Provide the consulting firm a signed copy of the contract.

10-3. Decentralized:

Due to the specialized and technical nature of professional services, contracting for professional services is decentralized and shall be the responsibility of each applicable Department Head.

10-4. Solicitation of Proposals:

Solicitation of professional service proposals is the responsibility of the operating departments. The Finance Department may be contacted to assist and support the formal request for proposal process.

10-5. Selection of Consultant:

Contracts negotiated by the City for professional services will be based on demonstrated competence, professional qualifications for the services required, availability, fair and reasonable cost, and other relevant factors as determined by the operating department. Competitive bidding is encouraged whenever possible; however, it is not mandatory.

10-6. City Attorney Review and Approval:

The City shall, whenever possible, use the City's Professional Services Agreement form, which as been approved as to form by the City Attorney and is available on CityNet. Should another agreement be considered for professional services, review and approval as to form by the City Attorney is required prior to execution by the City.

The City Attorney shall review and approve as to form all Professional Service Agreements prior to City Council approval for contracts over $100,000.

10-7. Procurement Limits — Professional/Consultant Services:

Specified procurement limits are tabulated per consultant firm per fiscal year and are not to be split to circumvent the determined limits. No professional services consultant shall be paid more than $100,000 per fiscal year for the City as a whole without prior Council authorization.

10-7.1. Contracts of $50,000 or Less:

Contacting three (3) firms, although encouraged, is not required for contracts $50,000 or less. Department Heads are authorized to sign Professional Service Agreements totaling $50,000 or less.

10-7.2. Contracts $50,000.01 up to $100,000:

Operating departments should, whenever possible, contact three (3) consultants/firms and select the most qualified firm. The City Manager is authorized to sign Professional Service Agreements totaling $100,000 or less.

10-7.3. Contracts Over $100,000:

Operating departments shall solicit written proposals and negotiate with a minimum of three (3) consultants/firms, whenever possible. Professional Service Agreements over $100,000 require City Council approval. If the contract is a multiple year agreement,

information regarding multiple years must be presented to Council in the staff report at the time of approval.

10-8. Changes to and Cancellation of Purchase Orders:

The operating department will notify Finance when initiating changes which alter the purchase order. Purchase orders that need to be canceled or closed must be forwarded to Accounts Payable. The last payment against a purchase order that does not increase the purchase order total by 10% can be processed without obtaining a purchase order change order.

The City Manager will approve any change orders that have the purchase order total amount exceed $50,000, up to $100,000. Change orders cannot be requested that exceed Council-approved appropriations or Council contract award amounts without additional Council authorization.

SECTION 11: CONTRACT AMENDMENTS FOR TECHNICAL/MAINTENANCE OR PROFESSIONAL SERVICES

Ongoing City contracts with technical/maintenance vendors or professional services consultants may require amendments for a number of reasons, including change in scope of work, time extension to complete the project or renew for an additional period of time, and unforeseen costs.

Operating departments should utilize the City's amendment forms, available on CityNet. Should a firm's agreement be considered, review and approval as to form by the City Attorney is required prior to execution by the City.

11-1. Operating Department Responsibilities:

1. Prepare a City amendment and obtain appropriate signatures from both parties.
2. Compile all exhibits/attachments referenced in the amendment. Update the insurance documents if necessary.
3. Obtain City Manager and/or City Attorney approval, if applicable.
4. When the contract plus amendment total over $100,000, obtain City Council approval.
5. Submit request to Finance for a purchase order change order if the amendment alters the dollar amount.
6. Submit original signed amendment, complete with exhibits and attachments, to the City Clerk.
7. Provide the consultant (professional services) or vendor (technical/maintenance services) a signed copy of the amendment.

11-2. Amendment Cost Limits:

Contract amendments can only be approved within their cost limits. Cost limits are calculated as the existing contract total plus any cost changes in the amendment.

11-2.1. Contract Total of $50,000 or Less:

Amendments can be approved by the Department Head if the contract total, including all amendments, does not exceed $50,000.

11-2.2. Contract Total of $50,000.01 to $100,000:

Amendments can be approved by the City Manager if the contract total, including all amendments, does not exceed $100,000.

11-2.3. Contract Total Over $100,00:

Amendments must be approved by City Council and executed by the City Manager if the amended contract will exceed the amount previously approved by City Council or if an amendment will cause the contract to exceed $100,000.

11-2.4. Prior Approved Contingency:

City Council may award a contract amount plus a contingency for a project or service that will or potentially will exceed $100,000. In such a case, the contract would originally reflect the primary contract amount, but may be amended later up to the contingency authorized as part of the Council item without further Council action.

SECTION 12: SPECIFICATIONS

Accurate specifications are essential for effective bidding. It is the responsibility of each department to provide detailed, accurate specifications when requisitioning supplies and services.

12-1. Developing Specifications:

Well-developed specifications are necessary to ensure quality that will fulfill the operating department's needs while also avoiding unnecessary costs for the taxpayer. A good specification should be:

1. Simple and straightforward, yet specific enough that the bidder cannot evade any of the provisions or underbid with products that do not meet the department/division's needs.
2. Clear and easily identified, including any necessary measurements, material standards, or similar product types on the market.
3. Flexible and reasonably tolerant of discrepancies and different products.

4. As fair to the seller as reasonably possible without compromising the City's interests, and capable of being met by multiple bidders in order to promote competition.
5. Capable of being checked in order to determine if the quality is sufficient and the bid is valid.

12-2. **Standardization:**

Standardization of specifications for items common to several divisions enables collaborating departments to buy quantity and generally receive lower pricing due to larger orders. The Finance Department will support operating departments in the establishment of standard specifications for articles in common use.

12-3. **"Or Equal":**

When brand names are specified, the words "or equal" must be added unless compelling reasons make only a single brand acceptable. Use of a brand name for "equal to" specifications should be for the purpose of describing the standard of quality, performance, and characteristics the City desires and not be intended to limit or restrict competition. Use of "equal to" specifications should, whenever possible, identify a minimum of two brand names as approved equals.

Using specifications provided by a specific manufacturer should be avoided and, if used, the name of the manufacturer, model number, etc., should be indicated. It should also be stated, that use of the manufacturer's specifications are for the sole purpose of establishing an "equal to" criteria. When specifications designate "or equal," the City reserves the right to determine and approve any other as being equal or acceptable.

12-4. **Vendor Assistance in Writing Specifications:**

There may be occasions when vendor assistance may be required in developing specifications. Such specifications should be written in general terms. The vendor should be clearly informed that the information provided might be used in developing specifications for a competitive bidding process. The Purchasing Officer or their designee shall approve such specifications.

12-5. **Review of Specifications:**

It is the operating department's responsibility to assure that specifications are complete and accurate. The department will review for completeness of information, terms and conditions, insurance/compliance, and open and competitive language. To assure bid/proposal specifications and terms meet the City needs, the operating department may request review or assistance by the Finance Department, the City Attorney, or other pertinent City staff in the development of specifications.

SECTION 13: VENDOR RELATIONS

It is to the City's advantage to maintain and promote good relations with suppliers. The City's vendor relations reflect the public image of the City organization. Finance and the operating departments are responsible for promoting fairness, integrity, courtesy, and goodwill in their vendor relations.

Operating departments may make direct contact with vendors for such purposes as obtaining price quotes (less than $100,000), developing service contracts, initiating informal bid or proposal processes, obtaining technical information, obtaining cost estimates for budgeting or purchasing purposes, preparing purchase requisitions, and placing orders for authorized purchases.

The Finance Department may be the main contact in formal bid situations. Finance may also serve as an intermediary between operating departments and vendors when requested by operating departments or in conflict resolution matters.

SECTION 14: PROTEST PROCEDURE AND ADMINISTRATIVE APPEAL

14-1. Bid Protests (Not for Public Projects):

In the event of a bid protest, the alleged aggrieved protesting bidder must file in writing to the Finance Director the exact reason for the protest. In no event shall a protest be considered if all bids are rejected or after award of the contract. Failure to comply in the manner prescribed shall constitute a failure to exhaust administrative remedies and shall automatically relieve the City of Yuba City from accepting that protest.

Any others who wish to protest the outcome of a bid or procurement must utilize the public comment process during the regularly scheduled City Council meetings.

14-1.1. Protest Procedure Prior to Bid Opening:

Any bidder wishing to file a protest prior to bid opening concerning the specifications or bid procedure must do so in writing. This written protest must be received by Finance no later than four working days prior to bid opening. If a protest that is received cannot be resolved by the designated time of the bid opening, the Finance Director may delay the bid opening until the protest is addressed to the City's satisfaction.

14-1.2. Protest Procedure After Bid Opening:

Any bidder wishing to protest based on information that only became evident after the bid opening must file the protest in writing. This written protest must be received by Finance no later than five working days after the City of Yuba City notifies all bidders of the apparent low bid or the proposal selected by the committee for procurements under the formal bid limit, or within five working days from when bids or proposals over the formal bid limit are opened in public.

14-1.3. Protest Review:

The Finance Director shall review the written protest and, within five working days after receipt of the written protest, issue a decision in writing. The decision shall state the reasons for the action taken as well as inform the protesting bidder of the right to administrative appeal. A copy of the decision will be forwarded to the City Manager.

A decision rendered by the Finance Director as outlined in this section shall be final and conclusive. If the alleged aggrieved protesting bidder has complied with the protest procedures, they shall have the right to commence an administrative appeal.

14-2. Administrative Appeals:

The Finance Director's decision regarding a bid protest may be appealed to the appropriate approving authority, based upon the procurement limits. The protestor will be notified regarding the appropriate administrative appeal procedure in the written decision from the Finance Director.

14-2.1. Informal Bids:

The City Manager is the approving authority for all administrative appeals for all purchases up to $100,000. Appeals must be written and submitted to the City Manager's Office within five working days after the aggrieved bidder is notified of the Finance Director's decision. A written decision will be issued within ten working days after receipt of the written appeal. The decision by the City Manager is final.

14-2.2. Formal:

The City Council is the approving authority for formal appeals for the City of Yuba City for all purchases over $100,000. Appeals must be written and submitted to the City Manager's Office within five working days after the aggrieved bidder is notified of the Finance Director's decision. The City Council may consider the appeal concurrently with its decision on the award. The decision by the City Council is final.

14-3. Public Project Protests and Appeals:

Protests and appeals regarding public projects shall be per the procedures established in the Public Contract Code.

SECTION 15: SURPLUS AND UNCLAIMED PROPERTY

15-1. Surplus/Unclaimed Property:

The Purchasing Officer shall have the authority to sell, exchange, or trade in all supplies, materials, and equipment which are no longer used, have become obsolete, worn out, or scrapped, or which have become unsuitable for public use.

The Purchasing Officer shall also have the authority to sell unclaimed property. All unclaimed property shall be sold or otherwise disposed of in accordance with Civil Code § 2080 et seq.

All sales shall be in accordance with the provisions outlined in Section 2-6.08 and 2-6.09 of the City's Municipal Code.

15-2. Disposal of Personal Property (Less than $500):

Pursuant to Welfare and Institutions Code § 217, in lieu of the provisions contained in Civil Code § 2080, an alternative procedure is established with respect to the disposal of unclaimed personal property not worth more than $500. The Purchasing Officer is authorized with respect to said property, which has been unclaimed for at least 90 days, to transfer and deliver any such items to the Probation Officer of the County, to the Welfare Department of the County, or to any charitable or nonprofit organization which is authorized under its articles of incorporation to participate in a program or activity designed to prevent juvenile delinquency and which is exempt from income taxation under federal or state law, for use in any program or activity designed to prevent juvenile delinquency.

SECTION 16: FEDERALLY DECLARED EMERGENCIES

In the event of an emergency declared by the President of the United States, the City of Yuba City must comply with federal procurement standards as a condition of receiving public assistance funding from the Federal Emergency Management Agency (FEMA) for contract costs for eligible work. FEMA funding is governed by Title 2 of the Code of Federal Regulations (CFR) Part 200: Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

CITY OF YUBA CITY PURCHASING POLICIES AND PROCEDURES
APPENDIX I: DEFINITIONS

Amendment – A modification of terms and/or pricing for goods, professional services, or technical/maintenance services contracts or task orders.

Bid – A comparative price offer made by an intended seller in reply to an Invitation for Bid or Request for Quotation.

Bid Document – A document soliciting pricing for materials, supplies, and services purchases. The bid document includes all pertinent information related to the purchase (specifications), plus instructions to the vendor on how to prepare the document, terms and conditions, and any insurance requirements necessary.

CAL-Card – The City's procurement card issued under California Department of Goods and Services, utilized as a payment mechanism for purchases by authorized City staff.

Consultant – A provider of professional services, such as the examples provided in Section 10-1. Should be contracted via a Professional Services Agreement. See Section 10 for procurement guidelines.

Contract – Any agreement or written document which produces a contractual agreement between the City and another party for the procurement or disposition of materials, services, professional services, or construction projects.

Department Head – The director of a department or their designee.

Equipment – Furnishings, machinery, vehicles, rolling stock, and other personal property used in the City's business.

Force Account – Construction work performed by City labor.

Goods – Any and all supplies, materials, and/or equipment which are moveable at the time of sale, and can be furnished to or be used by the City. This also includes goods purchased separately for City projects and goods purchased with installation services.

Procurement (Purchase) – Buying, purchasing, renting, leasing, or otherwise obtaining of any materials, equipment, supplies, or services. Also included are all activities related to obtaining the above items.

Proposal – A comparative written offer made by an intended consultant (professional services) or vendor (technical/maintenance services) for evaluation by City staff in reply to a Request for Proposal.

Public Project – "Public Project" shall have the meaning as set forth in the California Public Contract Code Sections 20161 and 22002, as amended.

Public Works Construction Project – A public construction project that is subject to the regulations of the state Public Contract Code, such as the erection, construction, alteration, major painting, repair, or demolition of public buildings, streets, walkways, water and sewer facilities, drainage facilities, or other public facilities, whether owned, leased, or operated by the City. Public works does not include maintenance work as defined in said Code.

Purchase Order – A document generated by the Finance Department after the bidding requirements have been met and the purchase has been awarded. A purchase order authorizes the purchase of goods or services. It is a written legal document signed by the Purchasing Officer, Finance Director, and/or Department Head (as required per the procurement limits) stating all terms and conditions of purchase transaction or referring to such terms and conditions as may exist in an accompanying contract. See Section 8 for purchasing procedures and approval requirements.

Purchase Order Change Order – A change order to an existing purchase order may occur for a variety of reasons including, but not limited to, increasing the dollar amount of the purchase order, adding or deleting a line item, changing an account number on a line item, or increasing or decreasing the quantity on a line item.

Purchasing Officer – The City Manager or a designated representative.

Purchase Requisition – A request for a purchase order. The request comes from the operating department that needs to order specific goods or services. This is completed through the City's operating Finance software (Pentamation at the time of policy adoption).

Request for Proposal – The complete assembly of related documents (whether attached or by reference) furnished to a prospective consultant or vendor for specific services for the purpose of soliciting a proposal for a City professional service or technical/maintenance service procurement. These shall be evaluated and awarded based on a number of factors, rather than just price.

Request for Quotation – The complete assembly of related documents (whether attached or by reference) furnished to a prospective contractor/supplier for specific products or services for the purpose of presenting a quote for a City procurement. These shall be reviewed and awarded to the lowest responsible bidder.

Sole Source – Unique commodities or services that can be obtained from only one vendor or one distributor authorized to sell in the area or region, with singular characteristics or performance capabilities, or which have specific compatibility components with existing City products are exempt from the competitive bidding requirements and are deemed sole source purchases. Sole source purchases may include proprietary items sold directly from the manufacturer.

Solicitation – An invitation or request by which the City invites a person to participate in a procurement, such as an Invitation for Bids, a Request for Proposals, a Request for Qualifications, or a Request for Quotations.

Specification – A description in the bid, proposal, or quote of the sought item or service which informs prospective vendors what is specifically required and provides the basis for determining the responsive bid and the resulting purchase order or contract. In addition, it establishes the standard against which inspections and tests are made.

Uniform Construction Cost Accounting Procedures – Uniform construction cost accounting procedures shall mean those procedures and rules established by the State Uniform Construction Cost Accounting Commission pursuant to Section 22000, et seq. of the Public Contract Code.

Vendor – A seller of materials and supplies or technical/maintenance services, such as installation. If any work is to be done by the vendor, it should be contracted via Standard Agreement. See Section 8 for procurement guidelines.

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Administration Department
Presentation By: Ciara Wakefield, City Clerk

Summary

Subject: Approve Tenant Commissioner Appointment to the Regional Housing Authority
Recommendation: Approve the re-appointment of Suzanne Gallaty as the Tenant Commissioner to the Regional Authority of Sutter and Nevada Counties Board of Commissioners
Fiscal Impact: None

Purpose:

Approval of Regional Housing Authority Tenant Commissioner Appointment.

Background:

Per the Agreement with the Regional Housing Authority of Sutter and Nevada Counties, each Governing Body shall jointly appoint a Tenant Commissioner, per Section 34246.5 of the California Health & Safety Code. At their meeting on June 3, 2026, the Regional Housing authority approved the recommendation to reappoint Suzanne Gallaty as the Tenant Commissioner on the Board of Commissioners for a two-year term ending December 31, 2028.

Analysis:

A request for approval of the recommended appointment to the Board of Directors has been received from the Regional Housing Authority for the Tenant Commissioner. This recommendation is compliant with the Agreement creating the Regional Housing Authority of Sutter and Nevada Counties. Each Governing Body also appoints two Commissioners: the City of Yuba City citizen representative, Anthony Kurlan, was appointed by the City Council on August 19, 2025 and the City Council representative is Mayor Boomgaarden.

Fiscal Impact:

None.

Alternatives:

Do not approve and request that the Regional Housing Authority recruit an alternative Tenant Commissioner.

Recommendation:

Approve the re-appointment of Suzanne Gallaty as the Tenant Commissioner to the Regional Authority of Sutter and Nevada Counties Board of Commissioners.

Attachments:

1. Tenant Commissioner Appointment Letter to City of Yuba City 6-3-2026

Prepared By:
Ciara Wakefield
City Clerk

Submitted By:
Robert Bendorf
City Manager

ATTACHMENT 1

REGIONAL HOUSING AUTHORITY
Serving the Cities of Live Oak, Yuba City and Colusa • Counties of Sutter, Nevada, Colusa and Yuba

1455 Butte House Road • Yuba City, CA 95993
Phone: (530) 671-0220 • Toll Free: (888) 671-0220 • TTY: (866) 735-2929 • Fax: (530) 673-0775
www.RegionalHA.org

June 3, 2026

City Council
City of Yuba City
1201 Civic Center Blvd.
Yuba City, CA 95993

RE: Tenant Commissioner Appointment

As per the Bylaws "The Board shall be composed of two Commissioners appointed by the Governing Body of the City of Yuba City; two Commissioners appointed by the Governing Body of the City of Live Oak; two Commissioners appointed by the Governing Body of the City of Colusa; two Commissioners appointed by the Sutter County Board of Supervisors; two Commissioners appointed by the Nevada County Board of Supervisors; two Commissioners appointed by the Yuba County Board of Supervisors; two Commissioners appointed by the Colusa County Board of Supervisors; and except as otherwise provided in section 34246.5 of the California Health & Safety Code, one Tenant Commissioner of the Housing Authority as appointed jointly by the Governing Bodies of the Cities of Live Oak, Colusa and Yuba City and the Board of Supervisors of the Counties of Sutter, Yuba, Colusa and Nevada upon the recommendation of the Housing Authority Board of Commissioners. The Member Governing Bodies shall notify the Secretary of the Housing Authority, in writing, of all appointments."

At the June 3, 2026 meeting of the Regional Housing Authority (RHA) Board of Commissioners it was approved to recommend Suzanne Gallaty to be re-appointed to the Tenant Commissioner position.

The Regional Housing Authority requests the City of Yuba City City Council appoint Suzanne Gallaty as Tenant Commissioner pursuant to the Bylaws and the Agreement Creating the Regional Housing Authority.

Sincerely,

Gustavo Becerra
Executive Director

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Administration Department
Presentation By: Ciara Wakefield, City Clerk

Summary

Subject: Appointments to City of Yuba City Personnel Board
Recommendation: Approve the Mayor's Recommendation of one (1) Appointment and two (2) Reappointments to the Personnel Board
Fiscal Impact: None

Purpose:

To fill three (3) vacancies on the City of Yuba City Personnel Board.

Background:

The Personnel Board holds hearings, conducts investigations, and hears appeals from employees relative to disciplinary actions or alleged violations of the provisions of the Municipal Code, Chapter 5 or the personnel rules. The Personnel Board reports its finding to the City Council or the City Manager as appropriate; and serves as a fact finding, mediation, or conciliation board when so requested in matters of employer-employee relations. The Personnel Board consists of five members serving four-year terms.

Recently, Mayor Boomgaarden and Vice-Mayor Pasquale held interviews for the Personnel Board.

The following recommendations are being made at this time:

Recommendation	Commission	Term Ending
Anthony Kurlan (Reappointment)	Personnel Board	06/30/2030
Harman Rai (Reappointment)	Personnel Board	06/30/2030
Gilbert, Margaret*	Personnel Board	06/30/2030

Fiscal Impact: None

Recommendation:

Approve the Mayor's Recommendation of one (1) Appointment and two (2) Reappointments to the Personnel Board.

Attachments:
None

Prepared By:
Ciara Wakefield
City Clerk

Submitted By:
Robert Bendorf
City Manager

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Administration Department
Presentation By: Ciara Wakefield, City Clerk

Summary

Subject: Public Comment Period of City Council Meetings
Recommendation: Adopt a Resolution establishing a fifteen-minute aggregate limit for public comment periods during City Council Meetings
Fiscal Impact: None

Purpose:

To promote the efficient and orderly conduct of City Council meetings, ensure the timely consideration of all agenda items, and support the City's ability to conduct essential public business while maintaining opportunities for public participation.

Background:

The City Council values and encourages public participation in the governmental process. Public comment periods provide residents and stakeholders an opportunity to address the Council on matters within its jurisdiction and on agenda items before Council action is taken.

With the implementation of SB 707, including remote meeting participation, staff anticipates a significant increase in public comment going forward. Government Code § 54954.3(b)(1) recognizes the authority of legislative bodies to adopt reasonable regulations governing the time, place, and manner of public testimony, provided such regulations are content-neutral and afford the public a meaningful opportunity to be heard.

Analysis:

The proposed Resolution would establish a maximum aggregate public comment period of fifteen (15) minutes during regular City Council meetings. This limitation only applies to general Public Comment, and not Consent or item-specific items. Effective July 1, 2026, all Public Communication will be limited to 3 minutes per person, until the fifteen-minute limit has been reached. This includes written requests to speak received by the Clerk in advance.

The proposed change is intended to balance the public's right to address the City Council with the City's responsibility to efficiently conduct municipal business. Limiting the overall duration of public comment will assist the Council in managing meeting length, maintaining focus on scheduled agenda

items, and improving predictability for meeting participants.

The proposed limitation would be applied in a content-neutral manner and would not restrict public participation based on viewpoint or subject matter. Written comments would continue to be accepted in accordance with established City procedures and made part of the public record.

Fiscal Impact:

None

Alternatives:

1. Leave public comment period duration unchanged
2. Provide alternate direction to staff

Recommendation:

Adopt a Resolution establishing a fifteen-minute aggregate limit for public comment periods during City Council Meetings.

Attachments:

1. Resolution - CC Public Comment v2 06.16.26

Prepared By:	Submitted By:
Ciara Wakefield	Robert Bendorf
City Clerk	City Manager

ATTACHMENT 1

RESOLUTION NO.

RESOLUTION OF THE CITY COUNCIL FOR THE CITY OF YUBA CITY ESTABLISHING A FIFTEEN-MINUTE AGGREGATE LIMIT FOR THE PUBLIC COMMENT PERIOD DURING CITY COUNCIL MEETINGS

WHEREAS, the City Council of the City of Yuba City values public participation and recognizes the importance of providing members of the public with an opportunity to address the City Council on matters within its jurisdiction; and

WHEREAS, the Ralph M. Brown Act (Government Code Section 54950 et seq.) requires that members of the public be provided an opportunity to directly address the legislative body on items of interest to the public that are within the subject matter jurisdiction of the legislative body; and

WHEREAS, Government Code § 54954.3(b)(1) authorizes legislative bodies to adopt reasonable regulations governing the total amount of time allocated for public testimony on particular issues and for each individual speaker; and

WHEREAS, the City Council finds that establishing reasonable time limits for public comment promotes the efficient and orderly conduct of meetings, ensures that all agenda items receive appropriate consideration, and assists the City Council in conducting the business of the City in a timely manner; and

NOW, THEREFORE, BE IT FURTHER RESOLVED, by the City Council of the City of Yuba City as follows:

SECTION 1. Establish 15 Minute Aggregate Limit for Public Comment

The City Council establishes an aggregate time allocated for a public comment period not to exceed fifteen (15) minutes, unless extended by a majority vote of the City Council.

SECTION 2. Public Comment Period

This limitation only applies to general Public Comment, and not Consent or item-specific items, unless extended by a majority vote of the City Council.

SECTION 3. Administration

The Mayor or presiding officer shall have authority to administer the public comment period in a fair, content-neutral manner consistent with this Resolution and applicable law.

The foregoing Resolution was duly and regularly introduced, passed, and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____

Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY:

_____

Shannon L. Chaffin, City Attorney
Aleshire & Wynder, LLP

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Public Works Department
Presentation By: Kevin Bradford, Deputy Public Works Director - Engineering

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Summary

Subject: WWTF Outfall Diffuser Project – Bid Phase Services Amendment

Recommendation: Adopt a Resolution that takes the following actions:

A. Authorizes Amendment No. 6 to the Professional Services Agreement with CH2M Hill Engineers, Inc., dated July 18, 2018, to complete Bid Phase Services activities for the Wastewater Treatment Facility Effluent Discharge Outfall Diffuser Project and authorizes the City Manager to execute the amendment following approval as to form by the City Attorney, with the finding that it is in the best interest of the City

B. Authorizes the Finance Director to make a supplemental appropriation and related transfers in the amount of $613,883 from unallocated wastewater funds to Account No. 981156

Fiscal Impact: $613,883 – Account No. 981156 (New Outfall and River Levee Crossing Replacement)

Purpose:

Assure continuous and reliable discharge of treated water from the Wastewater Treatment Facility to the Feather River in compliance with permit requirements.

Strategic Focus Area:

This project addresses the City Council's Strategic Focus Area of improving the City's infrastructure.

Background:

The City of Yuba City Wastewater Treatment Facility (WWTF) treats wastewater from the City's collection system and disposes of the treated effluent. Operation of the WWTF and discharge of treated effluent to the Feather River is regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB) through amended Order No. R5-2019-0017-01 and National Pollution Discharge Elimination System (NPDES) Permit No. CA0079260 (WWTF Permit).

Historically, the WWTF has had two options to dispose of treated effluent: (1) discharge directly into the

Feather River via an outfall diffuser pipe located upstream of Shanghai Falls; or (2) discharge into percolation/evaporation ponds located on the east side of the main river channel just downstream of Shanghai Falls (Attachment 1). Use of the outfall diffuser pipe is only permitted whenever river depths are sufficient to allow the treated effluent to adequately mix with river water to meet NPDES permit dilution requirements.

In 2011, the bed of the Feather River scoured in close proximity to the existing outfall diffuser pipe, cutting a deep channel to the east. This redirected a large portion of the river flow to the newly formed channel, leaving the outfall diffuser pipe exposed under normal river flows. The outfall diffuser pipe is currently unavailable for use at river flows of less than approximately 10,000 cubic feet per second (cfs), effectively rendering it unable to meet permit requirements except during substantial flood events.

Currently, the City's only option to reliably discharge treated effluent has been to the effluent disposal ponds. These ponds are limited in capacity for continuous use and require routine monitoring and maintenance. Additionally, the ponds are vulnerable to damage during times of high water and can subsequently become unavailable to use for an extended period of time.

Since the scour event in 2011, the City has actively been studying potential replacement options for the outfall diffuser pipe, including assessment studies performed by the City's consultant, Environmental Science Associates, in 2013 and 2017.

On July 17, 2018, Council awarded a Professional Services Agreement to CH2M Hill Engineers Inc. of Sacramento, CA, now a Jacobs Engineering Group, Inc. company (Jacobs), to provide professional services necessary for the WWTF Effluent Outfall Diffuser Relocation Project (Project), including predesign, design, environmental, permitting, easement acquisition, and bidding services. Council has previously authorized five amendments to the Jacobs agreement, the latest of which occurred at the July 19, 2022 Council meeting authorizing Jacobs to commence final design for the Project.

Analysis:

Jacobs has completed the 100% design documents, acquired 3 of 4 required easements, supported the City's State Revolving Fund (SRF) loan application, completed additional bathymetric surveys, and submitted permit applications for the new Outfall Pipeline. Additional services from Jacobs are necessary to secure the remaining permits, incorporate pending permit conditions into the bid documents, finalize the easement acquisitions, pre-qualify contractors for in-river construction, perform an additional bathymetric survey, assist with bid advertisement, and prepare conformed documents for construction.

Previously, staff planned to contract with Jacobs for services during construction, testing and startup, construction management, and prepare an operations/maintenance manual (Tasks 6-9). Jacobs has requested a new contract for these tasks, rather than amending the current contract, due to corporate ownership considerations. Staff agrees with this recommendation and will bring a new contract for these services to Council at the time of award of a construction contract.

Fiscal Impact:

The table below summarizes the new contract amount, including the proposed Amendment No. 6. A detailed summary of each contract amendment is attached.

Description	Total Fee
Original Contract Amount	$2,783,430
Amendment No. 1	$162,877

Amendment No. 2	$0
Amendment No. 3	$0
Amendment No. 4	$901,857
Amendment No. 5	$832,843
Amendment No. 6	$613,883
Revised Contract Amount	*$5,294,890*

There is no impact to the General Fund for this request. The cost will be covered by the wastewater fund.

Account No. 981156 (New Outfall and River Crossing) has a current balance of approximately $350,000. However, staff recommend retaining the full current balance to cover additional easement, permitting, staff time, and other miscellaneous expenses that are anticipated beyond the proposed Amendment No. 6 consultant charges. To fund the Amendment No. 6 request, the Finance Director requires authorization to transfer $613,883 from unallocated wastewater funds to Account No. 981156.

Alternatives:

Direct staff to postpone the project until construction funding is secured. Delay in completing the bid process, permitting, or easement acquisition will violate the City's current NPDES permit and could delay new development in the City.

Recommendation:

Adopt a Resolution that takes the following actions:

A. Authorizes Amendment No. 6 to the Professional Services Agreement with CH2M Hill Engineers, Inc., dated July 18, 2018, to complete Bid Phase Services activities for the Wastewater Treatment Facility Effluent Discharge Outfall Diffuser Project and authorizes the City Manager to execute the amendment following approval as to form by the City Attorney, with the finding that it is in the best interest of the City

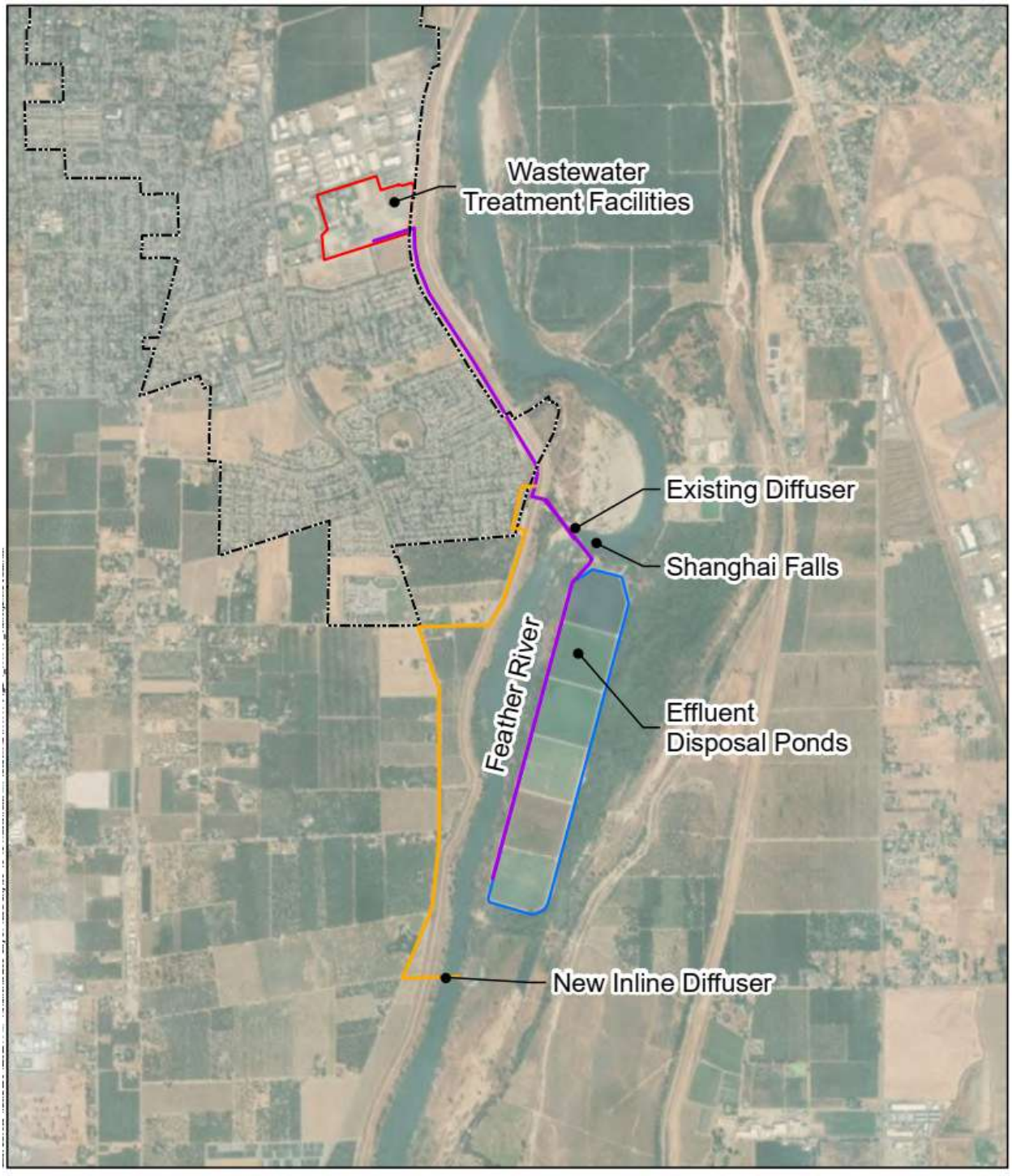
B. Authorizes the Finance Director to make a supplemental appropriation and related transfers in the amount of $613,883 from unallocated wastewater funds to Account No. 981156

Attachments:

1. Attachment 1 - Locations Exhibit
2. Attachment 2 - Resolution
3. Attachment 2 - Exhibit A
4. Attachment 3 - Contract Amendment Summary

Prepared By:	Submitted By:
Kevin Bradford	Robert Bendorf
Deputy Public Works Director - Engineering	City Manager

ATTACHMENT 1



Symbology

- WWTF Site
- Existing Effluent Pipeline
- Proposed New Outfall Diffuser Pipeline
- Effluent Disposal Ponds
- City Limits

Wastewater Treatment Facility

Effluent Disposal Locations

ATTACHMENT 2

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY AUTHORIZING AMENDMENT NO. 6 TO THE PROFESSIONAL SERVICES AGREEMENT WITH CH2M HILL ENGINEERS, INC. TO COMPLETE BID PHASE SERVICES FOR THE WASTEWATER TREATMENT FACILITY EFFLUENT DISCHARGE OUTFALL DIFFUSER PROJECT

WHEREAS, on July 17, 2018, the City Council awarded a Professional Services Agreement to CH2M Hill Engineers Inc., now a Jacobs Engineering Group, Inc. company (Jacobs), to provide professional services necessary for the Wastewater Treatment Facility Effluent Outfall Diffuser Relocation Project (Project); and

WHEREAS, on July 12, 2019, the City Manager approved Amendment No. 1 to the Professional Services Agreement authorizing additional Predesign tasks utilizing contingency authorized by the City Council on July 17, 2018; and

WHEREAS, on July 7, 2020, based on the Predesign Report and the potential capital expenditure on the anticipated design and construction of the outfall diffuser, the City Council authorized Amendment No. 2 to the Professional Services Agreement finding it is in the best interests of the City to evaluate alternative advanced treatment strategies that could result in alternative discharge options; and

WHEREAS, on December 1, 2020, the City Manager approved Amendment No. 3 to the Professional Services Agreement authorizing additional Predesign tasks necessary to complete evaluation of alternative advance treatment strategies; and

WHEREAS, on May 18, 2021, the City Council authorized Amendment No. 4 to the Professional Services Agreement initiating final design and reconciling budget changes resulting from Amendment Nos. 2 and 3; and

WHEREAS, on July 19, 2022, the City Council authorized Amendment No. 5 to the Professional Services Agreement to complete final design activities, including new scope of work tasks identified from the design, permitting, and easement acquisition activities; and

WHEREAS, the City Council desires to amend the Professional Services Agreement with CH2M Hill Engineers, Inc. (Jacobs) a sixth time to complete bid phase services for the Effluent Discharge Outfall Diffuser Project; and

WHEREAS, such an amendment is in the public interest.

NOW, THEREFORE, be it resolved and ordered by the City Council of Yuba City as follows:

1. The City Council of the City of Yuba City authorizes the City Manager to enter into Amendment No. 6 to the Professional Services Agreement with CH2M Hill Engineers, Inc. (Jacobs), substantially in the form of the amendment attached as Exhibit A to this Resolution, subject to approval as to form by the City Attorney. The City Council finds that approval of such amendment in the best interest of the City.

2. The City Council authorizes the Finance Director to transfer $613,883 from unallocated wastewater funds to Account No. 981156.

3. This Resolution shall take effect immediately.

The foregoing resolution was duly and regularly introduced, passed, and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June, 2026.

AYES:

NOES:

ABSENT:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____
Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY

_____
Shannon L. Chaffin, City Attorney
Aleshire & Wynder, LLP

Exhibit(s):

A. Amendment No. 6 to the Professional Services Agreement

EXHIBIT “A”

AMENDMENT NO. 6 TO THE AGREEMENT FOR PROFESSIONAL SERVICES
CH2M HILL ENGINEERS, INC.

CH2M Hill Engineers, Inc.
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

SUBJECT: Amendment No. 6 to Scope of Services for Yuba City WWTF - Outfall and Diffuser Project

This Amendment to the Agreement for Professional Services dated July 18, 2018 ("Fifth Amendment") is made and entered into as of the _____ day of _____, 2026 by and between the City of Yuba City ("City") and CH2M Hill Engineers, Inc. ("Consultant").

Recitals

Whereas, by Professional Services Agreement dated July 18, 2018 ("Prime Agreement"), City entered into an agreement with Consultant for professional engineering services for the City's Outfall and Diffuser Project in the amount of $2,783,430.00.

Whereas, the City Manager approved Amendment No. 1 to the Prime Agreement on July 12, 2019.

Whereas, the City Manager approved Amendment No. 2 to the Prime Agreement on July 10, 2020.

Whereas, the City Manager approved Amendment No. 3 to the Prime Agreement on December 1, 2020.

Whereas, the City Manager approved Amendment No. 4 to the Prime Agreement on May 19, 2021.

Whereas, the City Manager approved Amendment No. 5 to the Prime Agreement on July 19, 2022.

Whereas, the Parties desire to amend the Prime Agreement for a sixth time to provide for additional tasks, updated scope of service, revised compensation, schedule of performance and other items related to the Project.

Agreement

In consideration of the foregoing Recitals and for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the City and Consultant agree as set forth herein.

1. Section 1, Scope of Services, of the Prime Agreement and all subsequent Amendments is amended to include the following:

   "The Amendment 6 – Summary attached as Exhibit A to this Amendment No. 6, including Attachment 1: Summary of Additional Work Remaining, is hereby incorporated into the Scope of Services."

2. Section 3, Compensation, of the Prime Agreement is amended to add the following:

"The Amendment 6 – Summary attached as Exhibit A to this Amendment No. 6, including Attachment 2: Contract Budget Authorization Table and Attachment 3: Updated Rate Schedule, is hereby incorporated into the Compensation to be paid to Consultant. In no event shall Consultant's compensation exceed $5,294,890.00 without additional written authorization from the City."

3. A copy of the Prime Agreement and Amendment Nos. 1 through 5 are attached hereto as Exhibit "B" and, except as otherwise amended by this Sixth Amendment, the Prime Agreement and Amendment Nos. 1 through 5 are incorporated as though set forth in full herein.

4. Except as amended in this Sixth Amendment, the terms and conditions of the Prime Agreement, First Amendment, Second Amendment, Third Amendment, Fourth Amendment, and Fifth Amendment shall remain the same and shall be in full force and effect. This Sixth Amendment is not effective until approved and executed by the authorized City representative.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date and year first written above.

CITY:

CITY OF YUBA CITY, a municipal corporation

_____

Robert Bendorf, City Manager

CONSULTANT:
CH2M HILL ENGINEERS, INC.

_____

Name:_____

Title:_____

Kindly execute the original and two (2) copies and return to City Hall at 1201 Civic Center Boulevard, Yuba City, CA 95993; the City will return a fully-executed copy to you via mail for your files.

Attachments:

Exhibit A: Amended Exhibit A to Prime Agreement

Exhibit B: Amendment No. 5 (Fifth Amendment), including Prime Agreement and Amendment Nos. 1 through 4 (First through Fourth Amendments)

Exhibit A

Yuba City WWTF Outfall and Diffuser Project

Amendment 6 - Summary

This Amendment 6 is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work) to the Yuba City Wastewater Treatment Facility (WWTF) Outfall and Diffuser Project (Project). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

The Project 100% design documents were submitted in December 2022. Since that time the City has been working toward securing project funding, and the Project is now anticipated to begin the Bid Phase activities in June 2026, with an anticipated bid advertisement in December 2026. Between December 2022 and April 2026, Jacobs has provided additional services, including property acquisition, permitting support, supporting the City's State Revolving Fund (SRF) grant application process, completed another bathymetric survey update in 2025, and providing ongoing project management. Amendment 6 includes additional funding for previously completed additional services, as well as scope and funding for upcoming additional services required for completion of the Bid Phase.

This amendment includes the following parts:

- Attachment 1 - Summary of Estimated Work Remaining by Task
- Attachment 2 - Contract Budget Authorization Table
- Attachment 3 - Updated Rate Schedule through 2027

The following tasks were not included in the Authorized Contract Budget for this contract, and will be included in a future Services During Construction (SDC) contract:

- Task 6 – Services During Construction
- Task 7 – Testing and Startup
- Task 9 – Operations and Maintenance Manual

The City has decided that Task 8 (Construction Management) will be a competitive procurement during the fall of 2026.

Current Contract Value

The estimated not-to-exceed budget for Amendment 6 is $613,883. This amount is based on a rate schedule that has been escalated from the original contracted rates for the City's Outfall and Diffuser Project through 2027 at an average annual rate of 3%.

The table below summarizes the new total contract value to date including this amendment.

Description	Total Fee Estimate
Original Contract Value	$2,783,430
Amendment 1	$162,877
Amendment 2	$0
Amendment 3	$0

Amendment 4	$901,857
Amendment 5	$832,843
Amendment 6	$613,883
New Contract Value	$5,294,890

Attachment 1: Summary of Additional Work Remaining

Jacobs PN: 708865CH

Estimated Work Remaining Following Progress Report No. 57 (Through April 24, 2026)
City of Yuba City - WWTF Outfall and Diffuser Project

Task	Description	Estimated Work Remaining	Notes
1	**Predesign**		
1.9	DO Sag Analysis, Anti-Degradation Analysis, and & ROWD	Completion of DO Sag Report.	The remaining DO Sag Analyis is being removed from the scope of work and will be included in a future ESDC contract.
2	**Right of Way Acquisition**		
2.1	Survey Support for Right of Way Acquisition	-City is coordinating with PG&E regarding powerline alignment to VAS Building. Assume Yokohari plat map must be updated and a new legal description prepared for a new easement to PG&E.	
2.2	Appraisal and Acquisition Services	-Prepare and execute agreement with Sutter Co -Coordinate with CDFW for Sutter Co deed restrictions -Update appraisals for Netherby and Yokohari to support TCE extension -Update agreements for new TCE end dates with Netherby and Yokohari -City is coordinating with PG&E regarding powerline alignment to VAS Building. Assume Yokohari appraisal must be updated to grant new easement to PG&E, and Purchase Agreement must be updated with revised description.	
3	**Design**		
3.3	Prepare 100% Design Documents	-Complete PG&E power coordination (design modifications included under Task 5.2) -Finalize Effluent Pumping/ARV TM and existing outfall pipeline thrust block evaluation -MHM final bid docs -MHM survey support for 2026 bathymetric survey -Team time to review 100% punch list	
4	**Environmental Services and Permitting**		
4.2	In Water Permits	-Refresh the specs with the updated permit conditions -Assist City with process of paying mitigation banks	
4.3	Levee Permit	-Receive final permits from CVFPB and refresh specs -Submit two encroachment permit applications to LD-1 (MHM) -Prepare river rating and regression (stage-frequency) curves for contract documents	

Estimated Work Remaining Following Progress Report No. 57 (Through April 24, 2026)
City of Yuba City - WWTF Outfall and Diffuser Project

Task	Description	Estimated Work Remaining	Notes
4.4	Other Permits	-Allowance to submit and receive Sutter County Encroachment Permit (30 hours engineering, 30 hours CAD) -Allowance to submit and receive City building permits for Bifurcation and VAS buildings (16 hours)	
5	**Bid Services**		
5.1	Contractor Prequalification	Complete contractor prequalification as scoped.	-Previously completed early planning work and provided example prequalification documents to the City for review. -Escalated remaining labor and expense budget for 4 years from 2022 (after Amendment 4) to 2026 at 3%.
5.2	Prepare Bid Documents	-Bid-Phase "restart" and kickoff meeting (assume $9,000) -Four weeks of team meetings during bid set production ($13,500) -Completion of bid drawings -Finish front ends (SRF funding requirements) ($2500) -Incorporate PG&E changes (update dwgs to reflect final PG&E design for service to VAS Building) (12 hours) -Incorporate changes at Netherby (6 hours) -Allowance of 50 hours to update from 2019 CBC to 2025 CBC -Allowance of 20 hours to incorporate comments from Sutter Co. building permit for the Bifurcation and VAS buildings -Includes allowance to replace the bathymetric topographic reference file with the 2026 survey file and update the design drawings. -Includes design of power service conduit from PG&E pullbox in Dakota Court to the service entrance at the Bifurcation Building (ref dwg E-9).	1) Assumes City will reproduce hard copies at their copy shop - no hard copies are included. 2) Scope of Dakota Court power alignment design: -Assume "utility grade" Horizontal Direction Drill (HDD) from existing pullbox to Sutter County parcel, then open-cut installation to service meter connection -utility investigation (no potholes) -Assumes no previous structures or possible obstructions -MHM to provide utility and ground survey and boundary resolution -Assume no new easements -No additional geotech investigations -Update existing drawing E-9 (no profile view) -Add "utility-grade" HDD spec
5.3	Contract Advertise and Award	-Not started -Added 110 hours to answer additional potential bidder questions and prepare addenda -Added $5000 allowance for potential bid protest support	Escalated original labor and expense budget for 5 years from 2022 (after Amendment 4) to 2027 at 3%.
5.4	Prepare Conformed Documents	Not Started	-Assumes delivery of CAD files for conformed documents -Assumes City will reproduce hard copies at their copy shop - no hard copies are included. -Escalated original labor and sub budget for 5 years from 2022 (after Amendment 4) to 2027 at 3%.
10	**Project Management**		

Estimated Work Remaining Following Progress Report No. 57 (Through April 24, 2026)
City of Yuba City - WWTF Outfall and Diffuser Project

Task	Description	Estimated Work Remaining	Notes
10.1	External Project Meetings	Monthly progress meetings through March 2027	None
10.2	Develop and Maintain PM Tools	Look-ahead schedule updates, maintain Action Item Tracking log.	None
10.3	Project Controls and Invoicing	Invoicing through March 2027. Preparation of Amendment 6. Closeout design phase contract. Prepare ESDC contract amendment.	None
10.4	Project Team Coordination	Team coordination through completion of Bid Phase	None
10.5	Health and Safety	Review AKS safety documents for 2026 bathymetric survey and participate and Readiness Review meeting.	None
10.6	Subcontract Management	Subcontractor project management through bid phase (AKS, MHM, BRI)	None
11	**California SRF Loan Application Support**		
11.1	California SRF Loan Application Support	Minor support as needed by the City	Remaining budget of $14,159. No additional budget is needed.
11.2	SRF Project Report	None	Task 11.2 has exceeded the estimated budget. As agreed to with the City on October 2, 2025, Jacobs has billed the actual costs incurred to complete the project report. Actual cost is $78,430. No additional budget is needed.
12	**Supplemental Services**		
12.1	Bathymetric Surveys	Conduct additional bathymetric survey in 2026. Includes Bathymetric Survey Comparison TM.	2025 bathymetric survey update and comparison TM completed and invoiced ($34,711). Survey for 2026 based on estimate from AKS. Amendment 6 includes costs for both 2025 and 2026 surveys.
12.2	Environmental Impact Report	None.	Some budget transferred to Task 2 to support BRI for property acquisition. Remaining budget will be unused.
12.3	Vacuum Assisted Siphon	Completed 100% design.	This task is now complete. No remaining budget.

Jacobs PN: 708865CH

Estimated Work Remaining Following Progress Report No. 57 (Through April 24, 2026)
City of Yuba City - WWTF Outfall and Diffuser Project

Task	Description	Estimated Work Remaining	Notes
12.4	Archeological Test Pits	None	This task has not been authorized. Remaining budget will be unused.
12.5	WWTF Effluent Pump Station, Flow Metering, and Yard Piping Modifications	Completed 100% design.	This task is now complete. Remaining budget will be unused.
12.6	Project Management for Supplemental Services	Coordination for Supplemental Services.	This task is now complete. Remaining budget will be unused.
12.7	Pump Physical Modeling	None	This task is now complete. Remaining budget will be unused.

Attachment 2: Contract Budget Authorization Table

Yuba City WWTF Outfall and Diffuser Project

Contract Budget Authorization

City of Yuba City

Task	Original Authorized Amount	Amendments 1 through 5	Proposed Amendment 6	Total Authorized Amount	Spent Through April 2026	Balance Remaining
Task 1 - Predesign	$ 821,864	$ 169,354	$ 89,141	$ 1,080,359	$ 1,080,359	$ (0)
Task 2 - ROW Acquisitions	$ 185,305	$ 11,250	$ 73,011	$ 269,566	$ 224,622	$ 44,943
Task 3 - Design	$ 570,155	$ 486,894	$ 111,452	$ 1,168,501	$ 1,121,468	$ 47,033
Task 4 - Environmental Services/Permitting	$ 254,423	$ 166,972	$ 110,769	$ 532,164	$ 495,542	$ 36,622
Task 5 - Bid Services	$ 57,819	$ 21,545	$ 197,329	$ 276,693	$ 1,389	$ 275,304
Task 6 - Services During Construction (Not Contracted)	$ -	$ -	$ -	$ -	$ -	$ -
Task 7 - Testing and Startup (Not Contracted)	$ -	$ -	$ -	$ -	$ -	$ -
Task 8 - Construction Management (Not Contracted)	$ -	$ -	$ -	$ -	$ -	$ -
Task 9 - Operations and Maintenance Manual (Not Contracted)	$ -	$ -	$ -	$ -	$ -	$ -
Task 10 - Project Management	$ 344,301	$ 210,743	$ 229,274	$ 784,319	$ 607,223	$ 177,095
Task 11 - CA SRF Loan Application Support	$ 50,000	$ 16,054	$ 78,362	$ 144,416	$ 130,257	$ 14,159
Task 12 - Supplement Services	$ 499,564	$ 606,168	$ (275,455)	$ 830,277	$ 778,453	$ 51,824
Task 13 - Advanced Treatment Study	$ -	$ 208,596	$ -	$ 208,596	$ 208,337	$ 259
Total	**$ 2,783,430**	**$ 1,897,577**	**$ 613,883**	**$ 5,294,890**	**$ 4,647,651**	**$ 647,239**

Attachment 3: Updated Rate Schedule

Attachment 3 - Billing Rates

CH2M HILL ENGINEERS, INC
PROFESSIONALS AND TECHNICIANS
2018 - 2027 Hourly Billing Rates

Classification	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Principal in Charge*	260	268	276	284	293	302	311	320	330	340
Principal Professional 2*	234	241	248	255	263	271	279	287	296	305
Principal Professional 1*	198	204	210	216	222	229	236	243	250	258
Sr. Professional 2*	177	182	187	193	199	205	211	217	224	231
Sr. Professional 1*	167	172	177	182	187	193	199	205	211	217
Project Professional 2*	156	161	166	171	176	181	186	192	197	203
Project Professional 1*	129	133	137	141	145	149	153	158	163	168
Staff Professional 2*	126	130	134	138	142	146	150	155	160	165
Staff Professional 1*	108	111	114	117	121	125	129	133	137	141
Technician	112	115	118	122	126	130	134	138	142	146
Office/Clerical	112	115	118	122	126	130	134	138	142	146

Notes:
*includes engineering, consulting, planner and scientist disciplines
**These rates are effective January 1, 2018 through December 31, 2027
A markup of 10% shall be applied to all Other Direct Costs and expenses; 5% markup shall be applied to all Subconsultants

Exhibit B

Public Works

AMENDMENT NO. 5 TO THE AGREEMENT FOR PROFESSIONAL SERVICES
CH2M HILL ENGINEERS, INC.

CH2M Hill Engineers, Inc.
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

SUBJECT: Amendment No. 5 to Scope of Services for Yuba City WWTF - Outfall and Diffuser Project

This Amendment to the Agreement for Professional Services dated July 18, 2018 ("Fifth Amendment") is made and entered into as of the 19TH day of July, 2022 by and between the City of Yuba City ("City") and CH2M Hill Engineers, Inc. ("Consultant").

Recitals

Whereas, by Professional Services Agreement dated July 18, 2018 ("Prime Agreement"), City entered into an agreement with Consultant for professional engineering services for the City's Outfall and Diffuser Project in the amount of $2,783,430.00.

Whereas, the City Manager approved Amendment No. 1 to the Prime Agreement on July 12, 2019.

Whereas, the City Manager approved Amendment No. 2 to the Prime Agreement on July 10, 2020.

Whereas, the City Manager approved Amendment No. 3 to the Prime Agreement on December 1, 2020.

Whereas, the City Manager approved Amendment No. 4 to the Prime Agreement on May 19, 2021.

Whereas, the Parties desire to amend the Prime Agreement for a fifth time to provide for additional tasks, updated scope of service, revised compensation, schedule of performance and other items related to the Project.

Agreement

In consideration of the foregoing Recitals and for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the City and Consultant agree as set forth herein.

1. Section 1, Scope of Services, of the Prime Agreement and all subsequent Amendments is amended to include the following:

See Attached Scope of Services
(Exhibit A)

2. Section 3, Compensation, of the Prime Agreement is amended to add the following:

For services rendered by Consultant under this Amendment No. 5 to the Prime Agreement as outlined above, Consultant's compensation shall not exceed $832,843 without additional written authorization from the City.

3. A copy of the Prime Agreement and Amendment Nos. 1 through 4 are attached hereto as Exhibit "B" and, except as otherwise amended by this Fifth Amendment, the Prime Agreement and Amendment Nos. 1 through 4 are incorporated as though set forth in full herein.

4. Except as amended in this Fifth Amendment, the terms and conditions of the Prime Agreement, First Amendment, Second Amendment, Third Amendment, and Fourth Amendment shall remain the same and shall be in full force and effect. This Fifth Amendment is not effective until approved and executed by the authorized City representative.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date and year first written above.

CITY:

CITY OF YUBA CITY, a municipal corporation

Diana Langley

Diana Langley, City Manager

CONSULTANT:
CH2M HILL ENGINEERS, INC.

Name: John Schoonover

Title: Designated Project Executive

Kindly execute the original and two (2) copies and return to City Hall at 1201 Civic Center Boulevard, Yuba City, CA 95993; the City will return a fully-executed copy to you via mail for your files.

Attachments:

Exhibit A: Amended Exhibit A to Prime Agreement
Exhibit B: Amendment No. 4 (Fourth Amendment), including Prime Agreement and Amendment Nos. 1 through 3 (First through Third Amendments)

Exhibit A

Yuba City WWTF Outfall and Diffuser Project

Amendment 5 – Final Design Changes

Scope of Work

This Scope of Work is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

This Scope of Work is for changes and additional services during the final design and bid phases of the Yuba City Wastewater Treatment Facility (WWTF) Outfall and Diffuser Project (Project). This amendment will add additional scope and funding to Task 3, Task 4, Task 5, Task 10, Task 11, and Task 12 from the original Project Scope of Work.

The total fee estimate is provided in Appendix A based off an updated rate schedule provided in Appendix B. The consultant is not obligated to spend above this amount. Additional activities such as engineering services during construction, startup and testing, construction management, and operations and maintenance manual are not included, and will need to be contracted separately if needed by the City.

Project tasks included in the original proposal from Jacobs are listed below. The City decided to contract with Jacobs for several of the original proposed tasks in the Agreement for Professional Services dated July 18, 2018. Those tasks included in the original Agreement (or added by contract amendment) are summarized below, and the contracted budgets for each task are described in detail in Appendix C.

The following tasks have been contracted with Jacobs:

- Task 1: Predesign
- Task 2: ROW Acquisitions
- Task 3: Design
- Task 4: Environmental Services/Permitting
- Task 5: Bid Services
- Task 10: Project Management
- Task 11: CA SRF Loan Application Support
- Task 12: Supplemental Services
- Task 13: Advanced Treatment Study

The following tasks have not been contracted with Jacobs, but can be added by amendment at a later date if desired by the City:

- Task 6: Services During Construction
- Task 7: Testing and Startup
- Task 8: Construction Management
- Task 9: Operations and Maintenance Manual

Task 3. Design

The City requested changes to design elements during the final design phase, including additional surge tank survey, additional utility potholing, additions to the bifurcation station, changes to the pipeline alignment, and additional pumping evaluation services. The purpose of this task is to integrate these changes into the 90% and 100% design drawings, specifications, and cost estimate. Work activities will include:

Surge Tank Site Survey

- MHM will perform additional topographic survey using established project control monuments for the WWTF in the vicinity of the future surge tanks. Captured point data will be immediately evaluated and post processed to conform to the Project accuracy standards and calibrated to the most current documentation of NAD83 and NAVD88 by the National Geodetic Survey. All point data captured for the topographic mapping will be post processed and exported in an ASCII format and imported into an electronic drawing file to add to the existing base mapping of the project. MHM will perform surface modeling to develop minor contours at one-foot (1') and major contours at five feet (5') utilizing the triangular irregular network (TIN) lines developed through the software Autodesk Civil 3D with AutoCAD 2019. Jacobs will incorporate the revised base mapping and TIN provided by MHM to the existing Project files for delivery in the 90-percent design drawings. Jacobs will prepare subcontract and PO for MHM to perform the work.

Additional Utility Locates/Potholing and Garden Highway Structural Section Test Holes

- Subtronic will perform up to 6 potholes along Garden Highway between Stewart Road and Oswald Road. Three potholes are to confirm asphalt and base thickness within Garden Highway's structural section, one pothole is to locate Calpine's existing high voltage electric utility at the new surge tanks location, and two potholes are to confirm AT&T communication utility location and depth. Jacobs will prepare subcontract and PO for Subtronic to perform the work and will attend one day of field work to oversee the activities. Jacobs will also incorporate data into the 90-percent drawings.

Bifurcation Building and CAD Conversion

- Jacobs will develop a 90% and 100% design of the bifurcation station building including drawings, specifications, and cost estimate. This includes converting the CMU fence at the bifurcation station from 60% design to a building with architectural, structural, electrical, and HVAC elements as requested by the City and the CA Building Code. The battery backup system and roof mounted solar panels that were added to the bifurcation station during the 90% phase will be removed during 100%. The electrical service will be revised to 220V and fed from Dakota Court. Plat maps and legal descriptions will be updated for the revised electrical service alignment. The flow meter and associated valves will be lowered to be below grade within a gallery in the building to meet the flow meter submergence requirements. The site plan will be updated to incorporate the larger bifurcation station. Jacobs will also convert all project design files from AutoCAD/Civil 3D 2017 to AutoCAD/Civil 3D 2019.
- The effluent pumping low-flow condition has required additional design investigation to locate air relief valves which are compatible with very low or insufficient seating head conditions. Jacobs will investigate acceptable air release valves and installation conditions with manufacturers, prepare presentation documents for City review, and update air valve specifications and installation details.

Riverbank Restoration Design to meet NMFS regulations

- The original design scope assumed a riverbank restoration at the new diffuser which consisted of geotextile with rock slope protection. After the actual diffuser site was selected and topographic mapping was completed it was determined that the existing bank slope is too steep for rock slope

protection. In addition, following the pre-meeting with the NMFS it is anticipated that the fisheries agencies will require bank restoration which offers ecological benefits including fish habitat development. The design contained in the October 60% design is a combined MSE/RSS with willow fascines bank restoration. During the 100% design phase the combined MSE/RSS bank restoration will be replaced with an engineered backfill within the temporary pipe shoring, and surface grading to create a bank slope shallow enough to support rock slope protection over the permanent pipe. The intent with this design approach is to minimize the amount of disturbance to the existing bank, and to provide long- term stability considering the current geomorphic and ecological conditions present upstream and downstream. The transitions on either side of the rock slope protection will be tapered to conform to the existing riverbank and the surface restored with vegetation.

Yokohari Pipeline Alignment

- City has requested that Jacobs assist in developing an alternate alignment across the Yokohari property to support negotiations with the existing landowner following a meeting between the landowner and BRI on August 16. Jacobs prepared figures to illustrate potential alignment revisions and associated adjustments to proposed easements. Jacobs attended a follow-up meeting with the landowner on October 7. Following this meeting the City decided to revise the alignment to follow the levee toe across the Yokohari property. Jacobs revised the horizontal alignment design and associated easements and updated the affected contract drawings and construction details to coordinate the new alignment and easements with the new levee access ramp and the access requirements of SBFCA.

Additional Quality Control

- Jacobs will provide additional quality control review and services for the 90% and 100% design phases for the changes listed above as well as the following changes included in Task 12: Vacuum Tank Condensate Return Pump, Existing Flow Meter Vault Rehabilitation, Sample Sheds, and Other WWTF Features.

City Involvement:

- City will provide architectural preferences from other City projects to be included in the bifurcation station building and design criteria requirements for sizing the backup battery power supply system.
- City will review design and cost estimate and provide comments during the scheduled City review periods of the 90% and 100% design drawings.

Assumptions:

- The Bifurcation Building will be designed to the prescriptive requirements of the Title 24 energy requirements. Based on discussions with the Community Services Development Department, addition documentation or calculations are not required.

Deliverables:

- Topographic Survey and revised Digital Terrain Model provided by MHM.
- Clear photos for each pothole showing depths. Potholes should reference distances to two physical features on the maps provided so the information can be added to the plans. Table shall include pothole #, description (size, material, utility type), depth, location description provided by Subtronic.
- 11 total new or revised sheets and specifications for the Bifurcation Building included in the 90% and 100% drawing sets.
- 90% and 100% design cost estimate for the Bifurcation Building.

- 90% and 100% design cost estimate for the Flow Meter Vault Rehabilitation, Sample Sheds, Drainage Pumps, and Effluent Pipe Removal and Replacement.
- 1 new bank restoration drawing and revised pipeline and civil drawings reflecting the new bank restoration design.
- Revised plat maps and legal descriptions for the new Bifurcation Building electrical service alignment.
- Revision of 4 drawings for the pipeline, site civil, and electrical site plan resulting from the Yokohari Pipeline Alignment change.

Task 4. Environmental Services and Permitting

Task 4.5 – CVFPB/USACE Permit Support

This subtask is a new task for follow-on work to Task 4.2 and 4.3. Original task objectives that are still relevant include obtaining authorization for the outfall/diffuser structure and related project features under various state and federal permits and related consultation processes.

Based on effort required to obtain in-water geotechnical exploration boring permits, additional consultation is anticipated for the Section 408 and 404 permits, from the U.S. Army Corp of Engineers (USACE), and encroachment permit from Central Valley Flood Protection Board (CVFPB). This amendment's scope of work describes and estimates this level of effort. Actual level of effort will largely depend on requests for additional information from permitting agencies.

City Involvement:

- City will provide requested information to support inquiries by permitting agencies for Jacobs to be able to response in a timely manner.

Assumptions:

- Actual level of effort for permit acquisition is unknown and current level of effort is an estimate of anticipated effort based on previous experience with the permitting agencies for the geotechnical borings permit.

Deliverables:

- All deliverables from original scope of work.

Task 5. Bid Services

The purpose of this task is to provide additional bid services for the Bifurcation Building, existing flow meter vault, new South Sample Shed, wet well drainage pumps, effluent pipe, and venturi flow meter vault as described below to supplement the currently scoped bid services. All other existing City Involvement items, Assumptions, and Deliverables described in the currently scoped bid services will apply to this work as well.

Task 5.2 – Prepare Bid Documents

- Prepare Bid Documents including final design drawings and specifications to provide private bidding services company for project advertisement and distribution of Bid Documents.
- Additional services will include:

- Bid documents for the revised Bifurcation Building will also be provided.
- Bid documents for the changes and additions to the existing flow meter vault rehabilitation, new South Sample Shed, modifications of the existing South Sample Shed, Wet well Drainage Pumps, effluent pipe demolition and replacement, and demolition of venturi flow meter vault.
- Bid documents for riverbank restoration.

Task 5.3 – Contract Advertise and Award

- Respond to contractor bid questions.
- Prepare addenda as required by bidder questions.

Task 5.4 – Prepare Conformed Documents

- Prepare Conformed for Construction Documents that incorporate clarifications and changes made by addenda.

Assumptions:

- Up to 3 additional updated drawings.

Deliverables:

- New or revised sheets and specifications for the Bifurcation Building included in the bid drawing set.
- New or revised sheets and specifications for the Flow Meter Vault Rehabilitation, Sample Sheds, Drainage Pumps, and Effluent Pipe Removal and Replacement included in the bid drawing set.
- New or revised sheets and specifications for the riverbank restoration included in the bid drawing set.

Task 10. Project Management

The purpose of this task is to provide additional project management services for the work added by this amendment as described below to supplement the currently scoped services. The original design schedule envisioned the completion of bid-phase services in November 2020. The current design schedule shows the bid-phase complete in September 2023 ahead of construction in 2024. Jacobs has carefully managed project management time during the schedule extension, but additional budget will be needed to complete the scoped work through September 2023. This change provides additional budget for coordination with City staff, regular progress meetings, team coordination, and invoicing and cost tracking. All other existing City Involvement items, Assumptions, and Deliverables described in the currently scoped project management services will apply to this work as well. Jacobs will complete additional project management tasks as described below.

Task 10.1 – External Project Meetings

Jacobs will attend the following additional project meetings with City staff:

- Up to 5 additional Special Coordination Meetings as required by project needs.

Task 10.2 – Develop and Maintain Project Management Tools

Jacobs will prepare and maintain up to two additional project work plans (90%, and 100% final design phases) for the project.

Task 10.3 – Project Controls and Invoicing

Jacobs project controls staff will prepare regular internal cost reports for review by the Jacobs Project Manager. Jacobs will also prepare monthly invoices (including subconsultant invoices) and a Project Status Report including progress report narrative, scope change summary, and schedule and budget status for the work added by this amendment.

Task 10.4 – Project Team Coordination

Jacobs will conduct the following internal team coordination activities:

- Regular project team coordination meetings.

Task 10.5 – Health and Safety

Jacobs will conduct internal Health and Safety (H&S) procedures to manage the safety of our staff and oversee the safety of subconsultants. Our subconsultants will be required to prepare their own H&S Plan for all field activities, and we will work with our subconsultants to monitor compliance with their own H&S Plan. Health and safety activities will include:

- Monitor Jacobs staff and subconsultant compliance with the Field Safety Instructions, and subconsultant compliance with their own H&S Plan.

Task 10.6 – Subcontract Management

Jacobs will manage the performance of our subconsultants to comply with the scope of work, schedule, and budget. This task includes setting up subconsultant contracts and required pre-procurement reviews and reviewing monthly subconsultant invoices and progress reports for the work included in this amendment.

Task 10.7 – Project Management During Stand Down

City requested additional Jacobs project management support during stand down period. Stand Down period originally was scoped through March 2021. Additional project management support occurred in April and May 2021. Additional support included regular progress meetings with the City and maintaining action item logs.

City Involvement:

- Review agendas and minutes from project progress meetings and alert project manager of any questions or corrections.

Assumptions:

- Meetings will be attended by up to two Jacobs team members and will be attended by MS Teams.

Deliverables:

- Meeting agendas and meeting minutes.

Task 11. California SRF Loan Application Support

CEQA+ Support

Jacobs will provide engineering services to support the City's application to apply for grant/loan/bond funding for the Outfall and Diffuser Project. The Outfall and Diffuser project will be put forward for State Revolving Funding. This will require the CEQA document to be "federalized" in order to support various consultation activities (primarily Section 7 and Section 106). The consultant will not be required to spend more than the $50,000 allowance to support the City in this task.

City Involvement:

- Provide direction regarding requested engineering services

Assumptions:

- Schedule is estimated and is controlled by the City. Schedule for activities requested by the City will be agreed upon mutually by the City and Jacobs.

Deliverables:

- Jacobs will prepare separate Bio and Cultural TMs to support the CEQA document and these TMs will be used for these consultation purposes.
- Jacobs will prepare the SRF Environmental Package.

Task 12. Supplemental Services

Jacobs will complete the following additional supplemental services as described below.

Task 12.2 – Environmental Impact Report

This scope of work is based on CEQA compliance using an Initial Study/Mitigated Negative Declaration.

Regional Board Project Report

Jacobs will prepare a consolidated version of the Predesign Report and Appendixes to inform the Central Valley Regional Water Quality Board (Regional Board) of the project features that are within the purview of the Regional Board's jurisdiction. The City will review and comment on the consolidated version of the outline and draft report. Jacobs will incorporate the City's feedback into the outline and the draft report prior to transmittal to the Regional Board. New sections or appendixes will not be created for the purposes of this task. Existing sections and appendixes will be shortened and/or updated to provide relevant information for the Regional Board. The Outline for the consolidated Predesign Engineering Report will be followed and this Outline has been reviewed and approved by the City. In addition, conduct two dilution model runs to represent critical acute and chronic scenarios at lowest daily flow (2 and 5 mgd) to calculate DFs and confirm as part of the Engineering Report.

CEQA for Surge Tanks

The Jacobs environmental team will collaborate with the design leads to understand the layout of the surge tank facility, construction methods, and operational parameters. Jacobs will update the project description and all graphics to encompass the new surge tank facility. Jacobs will perform a database search of the California Historical Resources Information System. Jacobs staff will visit the site for cultural and biological resources site surveys, including walking the disturbance area. Jacobs staff will update the environmental impact analysis and (if needed) the mitigation measures to incorporate the potential additional impacts from the surge tank facility. Resources sections expected to require update include biological resources, cultural resources, hazards and hazardous materials, land use and planning, and noise.

City Involvement:

- The City will review and comment on the consolidated version of the Regional Board Project Report outline and draft report.

Assumptions:

- Draft Consolidated Predesign Report Review Meeting with City and Final Consolidated Predesign Report Meeting with City and Regional Board.

- Draft Consolidated Predesign Report Outline (August 2021), Final Consolidated Predesign Report Outline (Oct. 2021), Draft Consolidated Predesign Report (November 2021), and Final Consolidated Predesign Report (3 weeks after receipt of review comments on the Draft Report from the City).
- No surge tanks site conditions (e.g., presence of hazardous materials or evidence of cultural artifacts) will warrant additional, detailed study.
- CEQA Administrative Draft update will be completed in compliance with the existing master project schedule.

Deliverables:

- Draft and Final Consolidated Predesign Report Outline, Draft Consolidated Predesign Report, and Final Consolidated Predesign Report.
- Updated *Administrative Draft* Initial Study for City review.

Task 12.3 – Vacuum-Assist Siphon Predesign, Design, and other Services

This task adds to the originally scoped services for the vacuum-assist siphon.

Vacuum Tank Condensate Return Pump

- City has requested that condensate from the vacuum receiver tank be returned to the outfall pipeline and not be drained to a sump outside the building. Jacobs will submit a preliminary design to the City for review.

City Involvement:

- City will review design and provide comments during the scheduled City review periods of the 90% and 100% design drawings.

Deliverables:

- Change will require revisions to 6 existing drawings, architectural, structural, mechanical, electrical, I&C, and pipeline, that will be included in the 90%, 100%, and bid drawing sets.

Task 12.5 – WWTF Effluent Pump Station, Flow Metering and Yard Piping Modifications

The City has authorized Jacobs (under optional Task 12.5) to complete the WWTF Effluent Pump Station, Flow Metering, and Yard Piping modifications including final design and bid services. As part of the predesign phase, evaluation of the City's existing WWTF effluent pumping system recommended that three existing pumps be replaced. Amendment 5 requires the addition or significant revision to 18 drawings, physical modeling of the existing wetwells, and update to the Hydraulic Evaluation TM as stated below.

Existing Flow Meter Vault Rehabilitation, Sample Sheds, and Other WWTF Features

- Jacobs will develop a 90% and 100% design of the existing flow meter vault rehabilitation, new South Sample Shed, modifications of the existing South Sample Shed, effluent pipe demolition and replacement, and demolition of venturi flow meter vault including drawings, specifications, and cost estimate. Jacobs will perform an electrical site visit of the WWTF to review the changes which have been constructed, and yet to be documented, as a result of the current improvement project.

Additional Effluent Pumping Evaluation

- The Jacobs design team has completed the draft and revised draft Hydraulic Evaluation TM. Following a conference call with City staff on October 15, 2021, it was determined that changes to

the understanding of the operating water surface elevation would necessitate additional model analysis and alternatives development. Another conference call was conducted with City staff on December 1, 2021, to review the additional modeling work and alternatives development. It was concluded that rough cost estimates would be prepared for physical modeling alternative for the existing wet wells and potential wet well modifications, and construction costs for a potential addition of new pump cans outside the existing wet wells. Following a review of the data compiled by Jacobs, the City selected the physical modeling option as the preferred path forward. The hydraulic model will be updated for 2+1 and 3+1 pump alternatives under all flow scenarios to define the requirements of testing during physical modeling. Jacobs will update the hydraulic evaluation tech memo to summarize the results of the physical modeling after the modeling is complete.

City Involvement:

- City will review design and provide comments during the scheduled City review periods of the 90% and 100% design drawings.
- City will review draft final Hydraulic Evaluation TM which will include the results of physical modeling.

Assumptions:

- The new south sample shed building will be designed to the prescriptive requirements of the Title 24 energy requirements. Based on discussions with the Community Services Development Department, addition documentation or calculations are not required. Yuba City will make modifications to the existing electrical conduit within the existing flow meter vault to accommodate the new, thicker, traffic rated roof hatch.
- Physical modeling will need to be completed prior to determining the impacts to the 100% and bid drawing set delivery timelines.

Deliverables:

- Schematic alternatives design development of can pump option including engineering and construction cost estimate, recommendations, meeting summaries, and City selection of a preferred alternative. Draft final of the Hydraulic Evaluation TM following completion of the physical modeling.
- 14 total new or revised sheets and specifications for the Flow Meter Vault Rehabilitation, Sample Sheds, Drainage Pumps, and Effluent Pipe Removal and Replacement that will be included in the 90%, and 100% drawing sets.
- Revised draft and final of the Hydraulic Evaluation TM following completion of physical modeling.

Task 12.7 – Effluent Pump Physical Modeling and Implementation

As described in Task 12.5, during a meeting on February 11, 2022, the City decided to proceed with scaled physical modeling of the existing east and west wetwells. The Jacobs design team will compile physical modeling criteria and testing scenarios for Clemson Engineering Hydraulics to complete a scaled physical model of the existing east and west wetwells. Clemson will provide modeling results and recommendations for modifications to the existing wetwells for compliance with Hydraulic Institute standards. One Jacobs project team member will attend witness testing. Jacobs will implement the recommendations into the design of the pump station. In addition to the pumping modifications, Jacobs will incorporate a sump pump into the design which could be used to dewater the pump station.

City Involvement:

- City will review and comment on the draft physical modeling report.
- City will review and comment on potential modifications of the pump station as indicated in the draft physical modeling report.

Assumptions:

- City will provide water surface elevations for operating conditions in the existing wetwells.
- It is assumed that the wetwell sump pump will not require structural modifications.

Deliverables:

- Physical modeling report from Clemson.
- 4 revised sheets and specifications to implement the recommendations of the physical modeling results.

Project Schedule

The start date for delivery of the activities described in this amendment is controlled by the authorization to begin final design. The activities described above will delivered on a schedule that is mutually agreeable to the City and Jacobs.

Rates and Fees for Engineering Services

The estimated fee for the proposed engineering services is shown in Appendix A. Appendix B provides a rate schedule that has been escalated from the original contracted rates for the City's Outfall and Diffuser Project through 2023.

Appendix A
Fee Estimate

Yuba City WWTF Outfall and Diffuser Project
Amendment 5
APPENDIX A. JACOBS FEE ESTIMATE

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT WWTF Outfall and Diffuser Project	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Design Phase Change 01 - Surge Tank Survey									
Subtotal - Task 3.1.1 - Prepare 60% Design Plans and Specs	-	-	-	-	18,764.00	-	938.20	19,702.20	19,702.20
Subtotal - Task 3.2.1 - Prepare 90% Design Plans and Specs	14.00	2,616.00	-	-	-	-	-	-	2,616.00
Subtotal - Task 10.3 - Project Controls and Invoicing	8.00	1,438.00	-	-	-	-	-	-	1,438.00
Subtotal - Task 10.6 - Subcontract Management	8.00	1,432.00	-	-	2,710.00	-	135.50	2,845.50	4,277.50
Design Phase Change 01 Task Total	**30.00**	**5,486.00**	**-**	**-**	**21,474.00**	**-**	**1,073.70**	**22,547.70**	**28,033.70**
Design Phase Change 02 - Additional Utility and Garden Highway Potholing									
Subtotal - Task 3.2.1 - Prepare 90% Design Plans and Specs	21.00	3,719.00	-	-	12,012.50	-	600.63	12,613.13	16,332.13
Subtotal - Task 10.3 - Project Controls and Invoicing	2.00	364.00	-	-	-	-	-	-	364.00
Subtotal - Task 10.6 - Subcontract Management	8.00	1,492.00	-	-	-	-	-	-	1,492.00
Design Phase Change 02 Task Total	**31.00**	**5,575.00**	**-**	**-**	**12,012.50**	**-**	**600.63**	**12,613.13**	**18,188.13**
Design Phase Change 03 - Bifurcation Building and CAD Conversion									
Subtotal - Task 3.1.1 - Prepare 60% Design Plans and Specs	10.00	1,710.00	-	-	-	-	-	-	1,710.00
Subtotal - Task 3.2.1 - Prepare 90% Design Plans and Specs	295.00	54,421.00	-	-	-	-	-	-	54,421.00
Subtotal - Task 3.2.2 - 90% Technical Workshop	20.50	4,163.00	-	-	-	-	-	-	4,163.00
Subtotal - Task 3.2.3 - 90% Quality Mgmt	21.00	4,902.00	-	-	-	-	-	-	4,902.00
Subtotal - Task 3.2.4 - 90% Cost Estimate	18.00	3,366.00	-	-	-	-	-	-	3,366.00
Subtotal - Task 3.3.1 - 100% Documention Completion	284.00	56,084.66	-	-	-	-	-	-	56,084.66
Subtotal - Task 3.3.2 - 100% Quality Mgmt	14.00	3,206.00	-	-	-	-	-	-	3,206.00
Subtotal - Task 3.3.3 - 100% Cost Estimate	3.00	561.00	-	-	-	-	-	-	561.00
Subtotal - Task 5.2 - Prepare Bid Documents	4.00	970.00	-	-	-	-	-	-	970.00
Subtotal - Task 10.3 - Project Controls and Invoicing	27.00	5,027.00	-	-	-	-	-	-	5,027.00
Subtotal - Task 10.4 - Team Coordination	24.00	5,532.00	-	-	-	-	-	-	5,532.00
Design Phase Change 03 Task Hours	**720.50**								
Design Phase Change 03 Task Total	**720.50**	**139,942.66**	**-**	**-**	**-**	**-**	**-**	**-**	**139,942.66**
Design Phase Change 04 - Flow Meter Vault Rehabilitation, Sample Sheds, and Other WWTF Features									
Subtotal - Task 3.2.3 - 90% Quality Mgmt	38.00	9,086.00	-	-	-	-	-	-	9,086.00
Subtotal - Task 3.3.2 - 100% Quality Mgmt	16.00	3,919.00	-	-	-	-	-	-	3,919.00
Subtotal - Task 12.5 - WWTF Eff Pmp Sta/Flw Mtr/Yrd Pipe Mods	824.00	155,116.92	800.00	2,000.00	-	280.00	-	3,080.00	158,196.92
Subtotal - Task 12.6 - PM for Contingency Tasks	76.00	15,874.00	400.00	-	-	40.00	-	440.00	16,314.00
Design Phase Change 04 Task Total	**954.00**	**183,995.92**	**1,200.00**	**2,000.00**	**-**	**320.00**	**-**	**3,520.00**	**187,515.92**
Design Phase Change 05 - Regional Board Project Report									
Subtotal - Task 12.2 - Environmental Impact Report	136.00	28,252.00	-	-	-	-	-	-	28,252.00
Subtotal - Task 10.3 - Project Controls and Invoicing	8.00	1,520.00	-	-	-	-	-	-	1,520.00
Design Phase Change 05 Task Total	**144.00**	**29,772.00**	**-**	**-**	**-**	**-**	**-**	**-**	**29,772.00**
Design Phase Change 06 - Vacuum Tank Condensate Return Pump									
Subtotal - Task 3.2.3 - 90% Quality Mgmt	5.00	1,157.00	-	-	-	-	-	-	1,157.00
Subtotal - Task 12.3 - Vacuum Assisted Siphon	72.00	13,111.00	-	-	-	-	-	-	13,111.00
Subtotal - Task 12.6 - PM for Contingency Tasks	9.00	1,611.32	-	-	-	-	-	-	1,611.32
Design Phase Change 06 Task Total	**86.00**	**15,879.32**	**-**	**-**	**-**	**-**	**-**	**-**	**15,879.32**
Design Phase Change 07 - River Bank Restoration Design to meet NMFS regulations									
Subtotal - Task 3.2.1 - Prepare 90% Design Plans and Specs	180.00	37,466.00	-	-	-	-	-	-	37,466.00
Subtotal - Task 3.2.3 - 90% Quality Mgmt	2.00	526.00	-	-	-	-	-	-	526.00
Subtotal - Task 3.3.1 - 100% Documention Completion	33.00	7,352.00	-	-	-	-	-	-	7,352.00
Subtotal - Task 3.3.2 - 100% Quality Mgmt	15.00	3,027.00	-	-	-	-	-	-	3,027.00
Subtotal - Task 5.2 - Prepare Bid Documents	17.00	3,661.00	-	-	-	-	-	-	3,661.00
Subtotal - Task 10.3 - Project Controls and Invoicing	22.00	4,201.66	-	-	-	-	-	-	4,201.66
Design Phase Change 07 Task Total	**269.00**	**56,233.66**	**-**	**-**	**-**	**-**	**-**	**-**	**56,233.66**
Design Phase Change 08 - Yokohari Pipeline Alignment									

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT WWTF Outfall and Diffuser Project	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Subtotal - Task 3.2.1 - Prepare 90% Design Plans and Specs	110.00	19,768.00	-	-	-	-	-	-	19,768.00
Subtotal - Task 4.1.2 - Initial Stdy/Mitigated Neg	7.00	1,785.00	-	-	-	-	-	-	1,785.00
Subtotal - Task 10.3 - Project Controls and Invoicing	6.00	1,156.00	-	-	-	-	-	-	1,156.00
Subtotal - Task 12.3 - Vacuum-Assisted Siphon System	16.00	3,374.00	-	-	-	-	-	-	3,374.00
Design Phase Change 08 Task Total	**139.00**	**26,083.00**	**-**	**-**	**-**	**-**	**-**	**-**	**26,083.00**
Design Phase Change 09 - Additional PM Time During Stand Down									
Subtotal - Task 10.7 - PM During Stand Down	21.00	4,265.00	-	-	-	-	-	-	4,265.00
Design Phase Change 09 Task Total	**21.00**	**4,265.00**	**-**	**-**	**-**	**-**	**-**	**-**	**4,265.00**
Design Phase Change 10 - CEQA Plus									
Subtotal - Task 11 – CA SRF Loan Application	76.00	15,504.00	250.00	250.00	-	50.00	-	550.00	16,054.00
Design Phase Change 10 Task Total	**76.00**	**15,504.00**	**250.00**	**250.00**	**-**	**50.00**	**-**	**550.00**	**16,054.00**
Design Phase Change 11 - CEQA for Surge Tanks									
Subtotal - Task 12.2 – Environmental Impact Report	64.00	12,444.00	250.00	250.00	-	50.00	-	550.00	12,994.00
Design Phase Change 11 Task Total	**64.00**	**12,444.00**	**250.00**	**250.00**	**-**	**50.00**	**-**	**550.00**	**12,994.00**
Design Phase Change 12 - Additional Effluent Pumping Evaluation									
Subtotal - Task 3.2.1 - Prepare 90% Design Plans and Specs	10.00	1,870.00	-	-	-	-	-	-	1,870.00
Subtotal - Task 3.2.3 - 90% Quality Mgmt	-	-	-	-	-	-	-	-	-
Subtotal - Task 3.3.1 - 100% Documention Completion	-	-	-	-	-	-	-	-	-
Subtotal - Task 3.3.2 - 100% Quality Mgmt	4.00	888.00	-	-	-	-	-	-	888.00
Subtotal - Task 10.3 - Project Controls and Invoicing	26.00	6,034.00	-	-	-	-	-	-	6,034.00
Subtotal - Task 12.5 - WWTF Eff Pmp Sta/Flw Mtr/Yrd Pipe Mods	177.00	32,607.75	-	-	-	-	-	-	32,607.75
Design Phase Change 12 Task Hours	**217.00**								
Design Phase Change 12 Task Total	**217.00**	**41,399.75**	**-**	**-**	**-**	**-**	**-**	**-**	**41,399.75**
Design Phase Change 13 - Pump Physical Modeling									
Subtotal - Task 3.3.2 - 100% Quality Mgmt	15.00	3,389.00	-	-	-	-	-	-	3,389.00
Subtotal - Task 12.7 - Pump Physical Modeling	328.00	62,949.00	2,601.00	-	69,000.00	260.10	3,450.00	75,311.10	138,260.10
Subtotal - Task 10.3 - Project Controls and Invoicing	21.00	4,219.00	-	-	-	-	-	-	4,219.00
Subtotal - Task 10.6 - Subcontract Management	19.00	3,954.00	-	-	-	-	-	-	3,954.00
Design Phase Change 13 Task Total	**383.00**	**74,511.00**	**2,601.00**	**-**	**69,000.00**	**260.10**	**3,450.00**	**75,311.10**	**149,822.10**
Design Phase Change 14 - Additional Project Management for Time Extension									
Subtotal - Task 10.1 - Project Meetings	102.00	22,635.00	-	-	-	-	-	-	22,635.00
Subtotal - Task 10.3 - Project Controls/Invoicing	37.00	8,815.00	-	-	-	-	-	-	8,815.00
Subtotal - Task 10.4 - Project Team Coordination	98.00	25,098.00	-	-	-	-	-	-	25,098.00
Design Phase Change 14 Task Hours	**237.00**								
Design Phase Change 14 Task Total	**237.00**	**56,548.00**	**-**	**-**	**-**	**-**	**-**	**-**	**56,548.00**
Design Phase Change 15 - Additional Permitting Coordination									
Subtotal - Task 4.3 – Levee Permit (MHM)	208.00	50,112.00	-	-	-	-	-	-	50,112.00
Design Phase Change 15 Task Total	**208.00**	**50,112.00**	**-**	**-**	**-**	**-**	**-**	**-**	**50,112.00**
Grand Total	**3,579.50**	**717,751.31**	**4,301.00**	**2,500.00**	**102,486.50**	**680.10**	**5,124.33**	**115,091.93**	**832,843.24**

Appendix B
Rate Schedule

Appendix B - Rate Schedule

CH2M HILL ENGINEERS, INC
PROFESSIONALS AND TECHNICIANS
2018 - 2023 Hourly Billing Rates

Classification	2018	2019	2020	2021	2022	2023
Principal in Charge*	260	268	276	284	293	302
Principal Professional 2*	234	241	248	255	263	271
Principal Professional 1*	198	204	210	216	222	229
Sr. Professional 2*	177	182	187	193	199	205
Sr. Professional 1*	167	172	177	182	187	193
Project Professional 2*	156	161	166	171	176	181
Project Professional 1*	129	133	137	141	145	149
Staff Professional 2*	126	130	134	138	142	146
Staff Professional 1*	108	111	114	117	121	125
Technician	112	115	118	122	126	130
Office/Clerical	112	115	118	122	126	130

Notes:

*includes engineering, consulting, planner and scientist disciplines

**These rates are effective January 1, 2018 through December 31, 2023

A markup of 10% shall be applied to all Other Direct Costs and expenses; 5% markup shall be applied to all Subconsultants

Appendix C
Contract Budget Authorization Table

Yuba City WWTF Outfall and Diffuser Project

Contract Budget Authorization

City of Yuba City

Task	Proposed Contract Budget Amount	Original Authorized Amount	Amendments 1 through 4 Authorized Amount	Proposed Amendment 5	Total Authorized Amount
Task 1 - Predesign	$ 821,864	$ 821,864	$ 169,354	$ -	$ 991,218
Task 2 - ROW Acquisitions	$ 185,305	$ 185,305	$ 11,250	$ -	$ 196,555
Task 3 - Design	$ 570,155	$ 570,155	$ 231,382	$ 255,512	$ 1,057,049
Task 4 - Environmental Services/Permitting	$ 254,423	$ 254,423	$ 115,075	$ 51,897	$ 421,395
Task 5 - Bid Services	$ 57,819	$ 57,819	$ 16,914	$ 4,631	$ 79,364
Task 6 - Services During Construction	$ 239,751	$ -	$ -	$ -	$ -
Task 7 - Testing and Startup	$ 177,897	$ -	$ -	$ -	$ -
Task 8 - Construction Management	$ 458,476	$ -	$ -	$ -	$ -
Task 9 - Operations and Maintenance Manual	$ 21,362	$ -	$ -	$ -	$ -
Task 10 - Project Management	$ 503,617	$ 344,300	$ 110,715	$ 100,028	$ 555,043
Task 11 - CA SRF Loan Application Support	$ 50,000	$ 50,000	$ -	$ 16,054	$ 66,054
Task 12 - Supplement Services	$ 499,564	$ 499,564	$ 201,448	$ 404,721	$ 1,105,733
Task 13 - Advanced Treatment Study	$ -	$ -	$ 208,596	$ -	$ 208,596
Total	**$ 3,840,234**	**$ 2,783,430**	**$ 1,064,734**	**$ 832,843**	**$ 4,681,007**

Exhibit B

Public Works

AMENDMENT NO. 4 TO THE AGREEMENT FOR PROFESSIONAL SERVICES
CH2M HILL ENGINEERS, INC.

CH2M Hill Engineers, Inc.
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

SUBJECT: Amendment No. 4 to Scope of Services for Yuba City WWTF - Outfall and Diffuser Project

This Amendment to the Agreement for Professional Services dated July 18, 2018 ("Fourth Amendment") is made and entered into as of the 19th day of May, 2021 by and between the City of Yuba City ("City") and CH2M Hill Engineers, Inc. ("Consultant").

Recitals

Whereas, by Professional Services Agreement dated July 18, 2018 ("Prime Agreement"), City entered into an agreement with Consultant for professional engineering services for the City's Outfall and Diffuser Project in the amount of $2,783,430.00.

Whereas, the City Manager approved Amendment No. 1 to the Prime Agreement on July 12, 2019.

Whereas, the City Manager approved Amendment No. 2 to the Prime Agreement on July 10, 2020.

Whereas, the City Manager approved Amendment No. 3 to the Prime Agreement on December 1, 2020.

Whereas, the Parties desire to amend the Prime Agreement for a fourth time to provide for additional tasks, updated scope of service, revised compensation, schedule of performance and other items related to the Project.

Agreement

In consideration of the foregoing Recitals and for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the City and Consultant agree as set forth herein.

1. Section 1, Scope of Services, of the Prime Agreement and all subsequent Amendments is amended to include the following:

See Attached Scope of Services
(Exhibit A)

2. Section 3, Compensation, of the Prime Agreement is amended to add the following:

   For services rendered by Consultant under this Amendment No. 4 to the Prime Agreement as outlined above, Consultant's compensation shall not exceed $901,857 without additional written authorization from the City.

3. Except as amended in this Amendment No. 4, the terms and conditions of the Prime Agreement shall remain the same and shall be in full force and effect.

4. A copy of the Prime Agreement is attached hereto as Exhibit "B" and, except as otherwise amended by this Fourth Amendment, is incorporated as though set forth in full herein.

5. A copy of Amendment No. 1 is attached hereto as Exhibit "C" and, except as otherwise amended by this Fourth Amendment, is incorporated as though set forth in full herein.

6. A copy of Amendment No. 2 is attached hereto as Exhibit "D" and, except as otherwise amended by this Fourth Amendment, is incorporated as though set forth in full herein.

7. A copy of Amendment No. 3 is attached hereto as Exhibit "E" and, except as otherwise amended by this Fourth Amendment, is incorporated as though set forth in full herein.

8. Except as amended in this Fourth Amendment, the terms and conditions of the Prime Agreement, First Amendment, Second Amendment, and Third Amendment shall remain the same and shall be in full force and effect. This Fourth Amendment is not effective until approved and executed by the authorized City representative.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date and year first written above.

CITY:

CITY OF YUBA CITY, a municipal corporation

_____

Dave Vaughn, City Manager

CONSULTANT:

CH2M HILL ENGINEERS, INC.

_____

Name: John Schoonover

Title: Designated Project Executive

Kindly execute the original and two (2) copies and return to City Hall at 1201 Civic Center Boulevard, Yuba City, CA 95993; the City will return a fully-executed copy to you via mail for your files.

Attachments:

Exhibit A: Amended Exhibit A to Prime Agreement
Exhibit B: Prime Agreement
Exhibit C: Amendment No. 1 (First Amendment)
Exhibit D: Amendment No. 2 (Second Amendment)
Exhibit E: Amendment No. 3 (Third Amendment)

Exhibit A

Yuba City WWTF Outfall and Diffuser Project

Amendment 4 - Summary

This Amendment 4 is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work) to the Yuba City Wastewater Treatment Facility (WWTF) Outfall and Diffuser Project (Project). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

Amendment 4 includes funding reconciliation for contract budget transfers to cover Amendments 2 and 3; and scope and funding to supplement additional design, bid, and other services for the Project. The City directed Jacobs to stand-down work on transitioning to final design activities for the Project on February 24, 2020, while a brief Advanced Treatment Study was conducted. Amendments 2 and 3 were executed during the Advanced Treatment Study period. The Advanced Treatment Study was completed in April 2021 and the City has directed Jacobs to recommence final design activities.

Item 4A – Reconciliation of Budget Changes from Amendment 2

Amendment 2 included scope and funding to supplement two items for follow-on work: 2A) for the predesign phase of the Project and 2B) for the Advanced Treatment Study to evaluate alternative treatment options to the Project. Amendment 2 to the Outfall and Diffuser Project added a new Task 13 for the Advanced Treatment Study, including tasks 13.1 – 13.4.

- Item 2A provided additional support for activities during the predesign phase including effluent pumping system testing support, in-river geotechnical boring permitting support, dynamic modeling support, spring season bathymetry surveys, and project management support. Additional Project elements were included in the predesign than were previously scoped including a levee access ramp, a surge control system, a hydraulic and scour analysis, WWTF pump station modifications, and an additional predesign workshop.
- Item 2B provided WWTF staff an advanced treatment study to validate their current WWTF improvement and regulatory compliance strategy. The study compared relative costs, advantages and disadvantages for continued operation of the WWTF (as configured currently with the construction of the new proposed Diffuser) with alternative configurations for advanced treatment, in conjunction with a side-bank point discharge into the Feather River.

Item 4B – Reconciliation of Budget Changes from Amendment 3

Amendment 3 included scope and funding to supplement follow-on work for the Advanced Treatment Study, initiated by Amendment 2, to evaluate alternative treatment options to the Project. Amendment 3 revised existing subtasks 13.2.2 Sunsweet Handling Options and 13.3 Project Management and added the following new subtasks: Task 13.5 Study Re-Scoping, Task 13.6 Advanced Treatment Case Study, and Task 13.7 Screening Evaluation of Discharge Compliance.

Item 4C – Additional Services

Item 4C will provide additional services to support activities during the predesign, final design, and bid phases of the Project including additional Dissolved Oxygen analyses, in-river geotechnical boring permitting support, hydraulic and scour modeling analyses, follow-on tasks to the Advanced Treatment Study, labor escalation for deferred activities, and project management support. Additional Project

elements were included in the predesign than were previously scoped and final design and bid activities are added for these elements including a levee access ramp, a surge control system, and WWTF pump station modifications.

Item 4C also includes preparation of this amendment and labor escalation for existing design-phase work originally planned for 2019/2020 that has been pushed back to 2021/2022. There are no proposed changes to the original scope of work for this effort.

The following attachment is included as follows:

- Attachment 1: Item 4C – Additional Services Scope of Work and Fee Estimate

Rates and Fees for Engineering Services

Fees for the proposed engineering services are shown in the following table. Fees for item 4A and 4B are based on the same rates as contracted for the City's Outfall and Diffuser Project. Fees for item 4C are based on a rate schedule that has been escalated from the original contracted rates for the City's Outfall and Diffuser Project through 2023.

Item	Services	Hours	Jacobs Total Labor	Total Expenses	Total Fee Estimate
4A	Reconciliation of Budget Changes from Amendment 2	--	--	--	$289,786
4B	Reconciliation of Budget Changes from Amendment 3	--	--	--	$50,000
4C	Additional Services	2,189	$520,141	41,930	$562,071
	Amendment 4 Total				**$901,857**

Current Contract Value

The Amendment 4 budget of $562,071 for additional services will be funded by additional City funding sources. Final design of the Project is anticipated to be authorized by the City in Spring 2021, funds will be added by Amendment 4 to replace Task 3 (totaling $289,786) and Task 5 (totaling $50,000) funds that were borrowed by Amendments 2 and 3, respectively. Amendment 4 adds $901,857 to the total contract value.

The table below summarizes the new total contract value to date including this amendment.

Description	Total Fee Estimate
Original Contract Value	$2,783,430
Amendment 1	$162,877
Amendment 2	$0
Amendment 3	$0
Amendment 4	$901,857
New Contract Value	$3,848,165

Attachment 1: Item 4C - Additional Services Scope of Work and Fee Estimate

Yuba City WWTF Outfall and Diffuser Project

Amendment 4 – Additional Services

Scope of Work

This Scope of Work is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

This Scope of Work is for additional services during the final design and bid phases of the Yuba City Wastewater Treatment Facility (WWTF) Outfall and Diffuser Project (Project). This amendment will add additional scope and funding to Task 1, Task 2, Task 3, Task 4, Task 5, Task 10, Task 12, and Task 13 from the original Project Scope of Work.

Project final design was original scheduled to begin in August 2019. Due to delays resulting from additional river investigations and modeling during predesign and the completion of the Advanced Treatment Study completed as part of Task 13, the initiation of final design has been moved back almost two years to May 2021. This amendment provides additional budget to adjust budgeted labor rates and staff classification changes for Jacobs and subconsultants from 2019/2020 to 2021/2022 for previously contracted work under Tasks 2, 3, 4, 5, 10, and 12. For tasks which are partially complete, only the labor hours and subcontract budget remaining to be completed have been escalated. The total fee estimate for this amendment reflects the escalation adjustments but there are no additional services included for these items.

The total fee estimate is $562,071 as provided in Appendix A based off an updated rate schedule provided in Appendix B. The total fee estimate does include labor escalation costs for existing scoped work from 2019 through 2021. The consultant is not obligated to spend above this amount. Additional activities such as engineering services during construction, startup and testing, construction management, and operations and maintenance manual are not included, and will need to be contracted separately if needed by the City.

Project tasks included in the original proposal from Jacobs are listed below. The City decided to contract with Jacobs for several of the original proposed tasks in the Agreement for Professional Services dated July 18, 2018. Those tasks included in the original Agreement are summarized below, and the contracted budgets for each task are described in detail in Appendix C.

The following tasks have been contracted with Jacobs:

- Task 1 Predesign
- Task 2 ROW Acquisitions
- Task 3 Design
- Task 4 Environmental Services/Permitting
- Task 5 Bid Services
- Task 10 Project Management
- Task 11 CA SRF Loan Application Support
- Task 12 Supplemental Services

- Task 13 Advanced Treatment Study

The following tasks have not been contracted with Jacobs, but can be added by amendment at a later date if desired by the City:

- Task 6 Services During Construction
- Task 7 Testing and Startup
- Task 8 Construction Management
- Task 9 Operations and Maintenance Manual

Task 1. Predesign

Task 1.9 – DO Sag Analysis, Anti-Degradation Analysis, and ROWD

This subtask involves continuing work on Task 1.9. The City requested that Jacobs review the DO Analysis approach with City staff in June 2020 and prepare an additional DO sampling plan for July-Oct 2020 river sampling by City with sampling results reviewed by Jacobs. Original task objectives that are still relevant include obtaining NPDES Order compliance with the CVRWQCB for the outfall/diffuser structure and related project features. The reissued 2019 NPDES Order from the CVRWQCB has required changes to original tasks to be supplemented with the following:

- The NPDES Order, reissued April 2019, requires a Work Plan submittal to the CVRWQCB, within one year, after new diffuser operation and a DO Assessment Report, within 3.5 years, after Work Plan approval by the CVRWQCB.
- In June 2020, Jacobs and the City reviewed DO data collection approaches. The City requested that Jacobs prepare a DO Sampling and Analysis Plan for Feather River Sampling by City staff in July-October 2020. Jacobs reviewed river DO sampling results reported by the City during July-October 2020 to evaluate findings and recommend modifications.
- In June 2021, Jacobs and the City will review 2021 DO data collection approaches. Jacobs will update the DO Sampling and Analysis Plan for Feather River Sampling by City staff in 2021 (if necessary). Jacobs will review river DO sampling results reported by the City in 2021 to evaluate findings and recommend modifications.
- As part of the Predesign Report for the new outfall diffuser, a Tier 2 antidegradation analysis was planned to be prepared in accordance with the State of California *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries (*SIP), to document water quality standards compliance for the City's new discharge (as required in the current permit). Revised submittal date for this Antidegradation Analysis is now April 1, 2023 – per CVRWQCB approval in December 2020.

City Involvement:

- No change from original scope.

Assumptions:

- No change from original scope.

Deliverables:

- Draft SO Sampling and Analysis Plan in electronic file format (PDF).

Task 3. Design

The City requested additional elements to be added to the project during the predesign phase, including the levee access ramp and surge control system. The levee ramp is intended for construction traffic access and City operations and maintenance access. The surge control system is intended to provide protective measures to protect the existing outfall pipeline and new outfall pipeline extension. The predesign of these elements has been completed and was included in the 30% Predesign Report and Drawings. The purpose of this task is to develop draft through final contract drawings, specifications, and cost estimate for new levee access ramps and surge control system. Work activities will include:

Final Design Levee Access Ramps

- Develop 60%, 90%, and 100% design of the levee access ramps per CVFPB encroachment and LD1 permitting requirements.
- The 60% submittal will include plan drawings, sections and details drawings, and a first draft of technical specifications. The 60% design submittal will include 4 Civil Sheets for levee ramp plans, sections, and details.
- The 90% submittal will include updates to the plan drawings, sections and details drawings, and technical specifications incorporating the City's 60% design review comments.
- The Final Contract Document submittal will include updates to the plan drawings, sections and details drawings, and technical specifications incorporating the City's 90% design review comments. The 100% design submittal will include 4 Civil Sheets for levee ramp plans, sections, and details.

Final Design Surge Control System

- Jacobs will spend up to 20 hours to review the feasibility of an Uninteruptable Power Supply (UPS) backup system to provide surge control for the existing and new effluent pipeline as an alternative to the hydropneumatic tank system described in the final Predesign Report. Jacobs will meet with City staff to develop critical performance criteria for the UPS backup system and will summarize the findings of the feasibility review in a brief technical memorandum.
- Develop a 60%, 90%, and 100% design of the surge control system, including drawings, specifications, and cost estimate.
- Civil design will include final siting of location for the surge control tanks, piping, and air compressors on a site plan and grading plan. Yard piping is required to tie the tanks into the existing wastewater plant piping.
- Structural design will identify tank saddle foundations, slabs, and miscellaneous pads and pipe supports for the tanks and ancillary equipment.
- Mechanical design will implement the final surge analysis recommendations and coordinate any changes with other disciplines. Additionally, mechanical design will confirm tank configuration including plan, sections, and details; identify air compressor package; and coordinate cathodic protection for metallic tanks and piping.
- Electrical design will identify power for the new air compressor system and power for the surge control system control panel. Other miscellaneous electrical needs include site lighting and communications that tie in the new instrumentation and alarms to the existing plant SCADA interface.

City Involvement:

- Review UPS backup system feasibility technical memorandum and provide review comments. Meet with design team by conference call to review the findings of the review and provide direction to design team regarding whether to proceed with hydropneumatic tanks system as described in the final Predesign Report. If the City decides to proceed with another type of surge control system, the estimated price to design the hydropnuematic tanks surge control system will be sufficient for final design of a UPS backup system. If the price to design another type of surge control system following the completion of the feasibility evaluation, then Jacobs will provide the City an updated scope of work and fee estimate for final design of the selected system.
- Review 60%, 90%, and 100% design drawings, specifications, and cost estimate and provide review comments.
- Provide record drawings of existing yard piping at the existing WWTF.
- Provide record geotechnical boring information and surveyed topographic information at the WWTF.
- Provide master plan layout of the WWTF at buildout and provide direction on location of surge control system location on existing plant site to coordinate with anticipated future WWTF expansion projects.

Assumptions:

- Surge control system is based on two hydropneumatics tanks as described in the final Predesign Report.
- Geotechnical borings completed at the WWTF in the early 2000's will be provided by the City for Jacobs' use in determining existing soil conditions.
- The master plan of the ultimate WWTF buildout will be provided by the City for Jacobs' use in siting the surge control system and tanks.

Deliverables:

- A maximum of (4) civil drawings for 60%, 90% and 100% design submittals for the Construction Access Ramp provided in 11 x 17 electronic file format (PDF).
- Three (3) new specifications for 60%, 90% and 100% design for the levee access ramp provided in electronic file format (PDF).
- A maximum of (9) new general, civil, structural/mechanical, electrical, and I&C drawings for 60%, 90%, and 100% design submittals for the surge control system provided in 11 x 17 electronic file format (PDF).
- A maximum of (2) contingency sheets to be used as needed.
- Three (3) new specifications for 60%, 90%, and 100% design submittals for the surge control system provided in electronic file format (PDF). Other specifications already included in the design package will also be updated to include components associated with this task as well.
- Additional drawings are included in the Updated Drawing List in Appendix A of Attachment 2A of Amendment 2.

Task 4. Environmental Services and Permitting

Task 4.2 – In-Water Permits

This subtask is follow-on work to Task 4.2. Original task objectives that are still relevant include obtaining authorization for the outfall/diffuser structure and related project features under various state and federal permits and related consultation processes. The original tasks are supplemented with the following:

Additional Permitting Effort

- Based on effort required to obtain in-water geotechnical exploration boring permits, additional consultation is anticipated for the Section 408 and 404 permits, from the U.S. Army Corp of Engineers (USACE), and encroachment permit from Central Valley Flood Protection Board (CVFPB). This amendment's scope of work describes and estimates this level of effort. Actual level of effort will largely depend on requests for additional information from permitting agencies.

Permitting Levee Access Ramps

- The addition of the new levee access ramps project feature adds a complication to the permit application assembly and review process, which in the original scope included just the pipeline crossing. Also, environmental permits require detailed field investigations for biological and cultural resources, which are based on the project footprint – now expanded to include the levee access ramps. The additional scope of work supplements the original scope. All permit applications and supporting information will now include the levee ramp as part of the project. [NOTE: Additional funding for MHM is included in Task 4.3 – Levee Permits.]

Assumptions:

- Actual level of effort for permit acquisition is unknown and current level of effort is an estimate of anticipated effort based on previous experience with the permitting agencies for the geotechnical borings permit.
- Permit agencies will not require any unexpected technical studies as a result of including the levee ramp in the permit applications.

Deliverables:

- All deliverables from original scope of work to include levee ramp.

Task 4.3 – Levee Permit

This amendment adds additional work to the subtask as described below.

Task 4.3.1 - Central Valley Flood Protection Board Hydraulic and Scour Analysis

This subtask was developed in response to the request of the CVFPB and USACE to demonstrate water surface elevation changes and any scour effects from the new Yuba City outfall diffuser structure and trap structure in the Feather River floodplain. Hydraulic and bed scour modeling will be conducted in accordance with the Modeling Plan. Work activities include:

- Conduct Hydraulic Flood and Scour Modeling using the project hydraulic model (SRH-2D) and summarize modeling results in a Draft Technical Memorandum.
- Review the Draft Hydraulic Flood and Scour Modeling TM with the City by conference call, incorporate review comments, and produce a Final TM for submittal to the CVFPB and USACE.

City Involvement:

- Provide support and coordination with the CVFPB and USACE on review of the Modeling Plan and TM submittal.

- Review and comment on draft Modeling Plan and Modeling TM. City will provide one set of adjudicated comments within two weeks of receiving draft documents.
- Accompany Jacobs in up to one conference call with CVFPB and USACE to review the Hydraulic Flood and Scour Modeling TM.

Assumptions:

- A Draft Modeling Plan has been submitted for review to USACE under this subtask in Amendment 2. The City has deferred review of Draft Modeling Plan until final design activities commence. USACE has not completed review of Draft Modeling Plan, which could lead to additional modeling effort beyond this scope and fee estimate.
- The Hydraulic Flood and Scour Modeling TM will be concise and reviewed and approved by the CVFPB and USACE. If additional modeling and analyses are requested by the agencies, then that effort will be an addition to this scope and fee estimate.
- This task does not include development of design modifications to the shoreline primer trap structure and diffuser – such modifications would be performed under another engineering task.
- All conference calls will be conducted by phone or Skype.

Deliverables:

- Hydraulic Flood and Scour Modeling TM (draft and final) in electronic file format (PDF).

Task 4.4 – Other Permits

This subtask is follow-on work to Task 4.4. Original task objectives that are still relevant include obtaining authorization for the in-water geotechnical borings under various state and federal permits and related consultation processes. The original tasks are supplemented with the following:

In-Water Geotechnical Boring Permit Support

- The list of permits for the geotechnical borings are the same as the original scope. Supplemental activities include preparing supplemental information requested by review agencies, including a detailed description of boring equipment and operations (in-water and on land), researching noise impacts of standard penetrometer tests (most research is on pile driving), calculation of in-water noise levels and contours, answering additional questions for the review agencies, and performing biological monitoring during in-water drilling activities.

City Involvement:

- No change from original scope.

Assumptions:

- No change from original scope.

Deliverables:

- Email correspondence answering review agencies questions.

Task 5. Bid Services

The purpose of this task is to provide additional bid services for the levee access ramps and surge control system as described below to supplement the currently scoped bid services. All other existing City Involvement items, Assumptions, and Deliverables described in the currently scoped bid services will apply to this work as well. Additional services will include:

Task 5.2 – Prepare Bid Documents

- Prepare Bid Documents including final design drawings and specifications to provide private bidding services company for project advertisement and distribution of Bid Documents.

Task 5.3 – Contract Advertise and Award

- Respond to contractor bid questions.
- Prepare addenda as required by bidder questions.

Task 5.4 – Prepare Conformed Documents

- Prepare Conformed for Construction Documents that incorporate clarifications and changes made by addenda.

Assumptions:

- Up to 2 additional addendums with up to 3 updated drawings each.

Task 10. Project Management

The purpose of this task is to provide additional project management services for the work added by this amendment as described below to supplement the currently scoped services. All other existing City Involvement items, Assumptions, and Deliverables described in the currently scoped project management services will apply to this work as well. Jacobs will complete additional project management tasks as described below.

Task 10.1 – External Project Meetings

Jacobs will attend the following additional project meetings with City staff:

- Up to 3 additional Special Coordination Meetings as required by project needs.

City Involvement:

- Review agendas and minutes from project progress meetings and alert project manager of any questions or corrections.

Assumptions:

- Meetings will be attended by up to two Jacobs team members and will be attended by conference call or Skype.

Deliverables:

- Meeting agendas and meeting minutes.

Task 10.2 – Develop and Maintain Project Management Tools

Jacobs will prepare and maintain up to three additional project work plans (60%, 90%, and 100% final design phases) for the levee access ramp design, surge control system design, and the WWTF Effluent Pump Station Modifications.

Task 10.3 – Project Controls and Invoicing

Jacobs project controls staff will prepare regular internal cost reports for review by the Jacobs Project Manager. Jacobs will also prepare monthly invoices (including subconsultant invoices) and a Project Status Report including progress report narrative, scope change summary, and schedule and budget status for the work added by this amendment.

Task 10.4 – Project Team Coordination

Jacobs will conduct the following internal team coordination activities:

- Regular project team coordination meetings.

Task 10.5 – Health and Safety

Jacobs will conduct internal Health and Safety (H&S) procedures to manage the safety of our staff and oversee the safety of subconsultants. Our subconsultants will be required to prepare their own H&S Plan for all field activities, and we will work with our subconsultants to monitor compliance with their own H&S Plan. Health and safety activities will include:

- Monitor Jacobs staff and subconsultant compliance with the Field Safety Instructions, and subconsultant compliance with their own H&S Plan.

Task 10.6 – Subcontract Management

Jacobs will manage the performance of our subconsultants to comply with the scope of work, schedule, and budget. This task includes setting up subconsultant contracts and required pre-procurement reviews and reviewing monthly subconsultant invoices and progress reports for the work included in this amendment.

Task 12. Supplemental Services

Jacobs will complete the following additional supplemental services as described below.

Task 12.5 – WWTF Effluent Pump Station, Flow Metering and Yard Piping Modifications

This subtask updates the existing optional Task 12.5 following completion of the final Predesign Report. The City has authorized Jacobs (under optional Task 12.5) to complete the WWTF Effluent Pump Station, Flow Metering, and Yard Piping modifications including final design and bid services. As part of the predesign phase, evaluation of the City's existing WWTF effluent pumping system recommended that three existing pumps be replaced. This amendment final design for seven additional drawings (as described below) to the six drawings included in the original scope of work.

City Involvement:

- Review 60%, 90%, and 100% design drawings, specifications, and cost estimate and provide review comments.

Assumptions:

- None.

Deliverables:

- A maximum of (2) civil drawings for 60%, 90% and 100% design submittals in 11 x 17 electronic file format (PDF).
- A maximum of (5) new electrical drawings for 60%, 90%, and 100% design submittals in 11 x 17 electronic file format (PDF).

- Additional drawings are included in the Updated Drawing List in Appendix A of Attachment 2A of Amendment 2.

Task 13. Advanced Treatment Study

The purpose of this task is to provide additional project management services for the work added by this amendment as described below to supplement the currently scoped services. Jacobs will complete additional project management tasks as described below.

Task 13.3.1 – External Project Meetings

Jacobs will attend the following project meetings with City staff:

- Biweekly Conference Call Progress Meetings. Meeting attendance will mostly be limited to Jacobs and City project managers.
- Meetings are expected to be conducted for an additional two months between April and May 2021.
- Scoping for this amendment, including meetings with City staff, and preparing draft and final scope of work and fee estimate.

City Involvement:

- Review agendas and minutes from project progress meetings and alert Jacobs project manager of any questions or corrections.

Assumptions:

- Meeting dates and times and method (in-person or by conference call) will be as agreed to between Jacobs and the City and will be subject to travel restrictions implemented by either party or by federal, state, or local public meeting limitations.

Deliverables:

- Conference call agenda and meeting summaries.

Task 13.8 – Side stream Treatment

The purpose of this subtask is to supplement activities requested under the Advanced Treatment Study. The original tasks are supplemented with the following:

- Develop a sidestream treatment cost for incorporation into the Draft Advanced Treatment Study TM. The cost estimate will be based on Bay Area Clean Water Agencies (BACWA) costs and will include construction, O&M and NPV costs for sidestream treatment only.
- Participate in conference calls with City staff, as needed, to develop the sidestream treatment costs.

City Involvement:

- City will provide the following information for incorporation into the cost estimate:
  - Recycle streams –total average flow, total average ammonia load (lb-N/day).
  - Average dry weather flow (ADWF) and load.

Assumptions:

- Conference calls and coordination time Jacobs spent with the City has been included in the fee estimate for this task.

Deliverables:

- Sidestream treatment cost estimate delivered in the Final Advanced Treatment Study TM in electronic file format (PDF).

Task 13.9 – Filtrate Sampling Plan Development

The purpose of this subtask is to supplement activities requested under the Advanced Treatment Study, specifically to develop a filtrate sampling plan that measures ammonia in the recycled treatment streams. The original tasks are supplemented with the following:

- Prepare a draft sampling plan for City review and conduct one review conference call with City staff to solicit City feedback.
- Incorporate City input into final sampling plan.
- Review sampling data, collected by City, to validate the estimated BACWA cost in $/lb to be used for sidestream treatment cost estimate.
- Summarize sampling results in Final Advanced Treatment Study TM.

City Involvement:

- Review draft sampling plan and provide input to Jacobs.
- City staff will complete sampling over a two-week period.

Assumptions:

- Up to two conference calls with Jacobs (limited to two Jacobs staff members) to review the draft sampling plan and review sampling results.

Deliverables:

- Draft and final sampling plan in electronic file format (PDF).
- Summarize sampling results in the Final Advanced Treatment Study TM in electronic file format (PDF).

Project Schedule

The start date for delivery of the activities described in this amendment is controlled by the authorization to begin final design. The activities described above will delivered on a schedule that is mutually agreeable to the City and Jacobs.

Rates and Fees for Engineering Services

The estimated fee for the proposed engineering services is shown in Appendix A. Appendix B provides a rate schedule that has been escalated from the original contracted rates for the City's Outfall and Diffuser Project through 2023.

Appendix A
Fee Estimate

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT WWTF Outfall and Diffuser Project Additional Services Amendment 4	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Amendment 04 - Additional Services									
Task 1 - Predesign									
Subtotal - Subtask 1.9 - Dissolved Oxygen Sag/Anti-degradation/ROWD Analysis	46	$ 10,056	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,056
Labor Escalation for Existing Design-phase Services from August 2019 to June 2021									
Subtotal - Task 2 - Right-of-Way Acquisitions	-	$ 1,301	$ -	$ -	$ 9,475	$ -	$ 474	$ 9,949	$ 11,250
Subtotal - Task 3 - Design	-	$ 44,017	$ -	$ -	$ 5,825	$ -	$ 291	$ 6,116	$ 50,133
Subtotal - Task 4 - Environmental Services/Permitting	-	$ 6,202	$ -	$ -	$ 1,105	$ -	$ 55	$ 1,160	$ 7,362
Subtotal - Task 5 - Bid Services	-	$ 2,215	$ -	$ -	$ 1,735	$ -	$ 87	$ 1,822	$ 4,037
Subtotal - Task 10 - Project Management	-	$ 12,949	$ -	$ -	$ 1,952	$ -	$ 98	$ 2,050	$ 14,999
Subtotal - Task 12 - Supplemental Services	-	$ 28,028	$ -	$ -	$ 6,546	$ -	$ 327	$ 6,873	$ 34,901
Subtotal - Labor Escalation for Existing Design-phase Services from August 2019 to June 2021	-	$ 94,712	$ -	$ -	$ 26,638	$ -	$ 1,332	$ 27,970	$ 122,682
Levee Access Ramp									
Subtotal - Task 3 - Final Design Levee Access Ramp	198	$ 36,474	$ -	$ -	$ 8,000	$ -	$ 400	$ 8,400	$ 44,874
Subtotal - Subtask 4.2 - Permitting Levee Access Ramp	40	$ 8,058	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,058
Subtotal - Task 5 - Bid Services Levee Access Ramp	30	$ 5,725	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,725
Surge Control System									
Subtotal - Task 3 - Final Design Surge Control System	716	$ 131,805	$ 200	$ 3,000	$ 1,000	$ 320	$ 50	$ 4,570	$ 136,375
Subtotal - Task 5 - Bid Services Surge Control System	38	$ 7,152	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,152
Task 4 - Environmental Services/Permitting									
Subtotal - Subtask 4.2 - In-Water Permits (including CVFPB Permit)	160	$ 30,240	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,240
Subtotal - Subtask 4.3.1 - CVFPB Hydraulic and Scour Analysis	107	$ 26,790	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,790
Subtotal - Subtask 4.4 - In-River Geotechnical Boring Permitting Support	36	$ 7,572	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,572
Task 10 - Project Management									
Subtotal - Subtask 10.1 - External Project Meetings	20	$ 4,000	$ 200	$ -	$ -	$ 20	$ -	$ 220	$ 4,220
Subtotal - Subtask 10.2 - Develop and Maintain Project Management Tools	56	$ 12,234	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,234
Subtotal - Subtask 10.3 - Project Controls and Invoicing	28	$ 6,072	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,072
Subtotal - Subtask 10.4 - Project Team Coordination	72	$ 14,656	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,656
Subtotal - Subtask 10.5 - Health and Safety	20	$ 3,908	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,908
Subtotal - Subtask 10.6 - Subcontract Management	33	$ 6,308	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,308
Subtotal - Task 10 - Project Management	229	47,178	200	-	-	20	-	220	$ 47,398
Task 12 - Supplemental Services									
Subtotal - Subtask 12.5 - WWTF Pump Station, Flow Metering, and Yard Piping Modifications	420	$ 75,820	$ 200	$ 500	$ -	$ 70	$ -	$ 770	$ 76,590
Task 13 - Advanced Treatment Study									
Subtotal - Subtask 13.3 - Advanced Treatment Project Management	114	$ 24,924	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,924
Subtotal - Subtask 13.8 - Sidestream Treatment Cost Development	31	$ 7,671	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,671
Subtotal - Subtask 13.9 - Filtrate Sampling Plan Development	24	$ 5,964	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,964
Additional Services Task Hours	2,189.0	$ 520,141							
Additional Servcies Task Budget	2,189.0	$ 520,141	$ 600	$ 3,500	$ 35,638	$ 410	$ 1,782	$ 41,930	$ 562,071

Appendix B
Rate Schedule

Appendix B - Rate Schedule

CH2M HILL ENGINEERS, INC
PROFESSIONALS AND TECHNICIANS
2018 - 2023 Hourly Billing Rates

Classification	2018	2019	2020	2021	2022	2023
Principal in Charge*	260	268	276	284	293	302
Principal Professional 2*	234	241	248	255	263	271
Principal Professional 1*	198	204	210	216	222	229
Sr. Professional 2*	177	182	187	193	199	205
Sr. Professional 1*	167	172	177	182	187	193
Project Professional 2*	156	161	166	171	176	181
Project Professional 1*	129	133	137	141	145	149
Staff Professional 2*	126	130	134	138	142	146
Staff Professional 1*	108	111	114	117	121	125
Technician	112	115	118	122	126	130
Office/Clerical	112	115	118	122	126	130

Notes:

*includes engineering, consulting, planner and scientist disciplines

**These rates are effective January 1, 2018 through December 31, 2023

A markup of 10% shall be applied to all Other Direct Costs and expenses; 5% markup shall be applied to all Subconsultants

Appendix C
Contract Budget Authorization Table

Yuba City WWTF Outfall and Diffuser Project
Amendment 4 Budget Authorization Summary
City of Yuba City

Task	Amendment 4 - Reconciliation from Amd 2 (Item 4A)	Amendment 4 - Reconciliation from Amd 3 (Item 4B)	Amendment 4 - Additional Services (Item 4C)	Amendment 4 - Total Authorized Amount and Date (TBD)
Task 1 - Predesign	$0	$0	$10,056	$10,056
Task 2 - ROW Acquisitions	$0	$0	$11,250	$11,250
Task 3 - Design	$289,786	$0	$231,382	$521,168
Task 4 - Environmental Services/Permitting	$0	$0	$80,022	$80,022
Task 5 - Bid Services	$0	$50,000	$16,914	$66,914
Task 6 - Services During Construction	$0	$0	$0	$0
Task 7 - Testing and Startup	$0	$0	$0	$0
Task 8 - Construction Management	$0	$0	$0	$0
Task 9 - Operations and Maintenance Manual	$0	$0	$0	$0
Task 10 - Project Management	$0	$0	$62,397	$62,397
Task 11 - CA SRF Loan Application Support	$0	$0	$0	$0
Task 12 - Supplement Services	$0	$0	$111,491	$111,491
Task 13 - Advanced Treatment Study	$0	$0	$38,559	$38,559
Total	**$289,786**	**$50,000**	**$562,071**	**$901,857**

Yuba City WWTF Outfall and Diffuser Project
Contract Budget Authorization
City of Yuba City

Task	Proposed Contract Budget Amount	Original Authorized Amount and Date (7/11/18)	Amendment 1 Authorized Amount and Date (9/19/19)	Amendment 2 Authorized Amount and Date (7/10/20)	Amendment 3 Authorized Amount and Date (12/1/20)	Amendment 4 - Total Authorized Amount and Date (TBD)	Total Authorized Amount To-Date
Task 1 - Predesign	$821,864	$821,864	$87,540	$71,758	$0	$10,056	$991,218
Task 2 - ROW Acquisitions	$185,305	$185,305	$0	$0	$0	$11,250	$196,555
Task 3 - Design	$570,155	$570,155	$0	-$289,786	$0	$521,168	$801,537
Task 4 - Environmental Services/Permitting	$254,423	$254,423	$0	$35,053	$0	$80,022	$369,498
Task 5 - Bid Services	$57,819	$57,819	$0	$0	-$50,000	$66,914	$74,733
Task 6 - Services During Construction	$239,751	$0	$0	$0	$0	$0	$0
Task 7 - Testing and Startup	$177,897	$0	$0	$0	$0	$0	$0
Task 8 - Construction Management	$458,476	$0	$0	$0	$0	$0	$0
Task 9 - Operations and Maintenance Manual	$21,362	$0	$0	$0	$0	$0	$0
Task 10 - Project Management	$503,617	$344,301	$10,294	$38,024	$0	$62,397	$455,016
Task 11 - CA SRF Loan Application Support	$50,000	$50,000	$0	$0	$0	$0	$50,000
Task 12 - Supplement Services	$499,564	$499,564	$65,043	$24,914	$0	$111,491	$701,012
Task 13 - Advanced Treatment Study	$0	$0	$0	$120,037	$50,000	$38,559	$208,596
Total	**$3,840,234**	**$2,783,431**	**$162,877**	**$0**	**$0**	**$901,857**	**$3,848,165**

Exhibit B

AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is made and entered into as of July 18, 2018, by and between the City of Yuba City, a municipal corporation ("City") and CH2M Hill Engineers, Inc. ("Consultant").

RECITALS

A. Consultant is specially trained, experienced and competent to perform the special services which will be required by this Agreement; and

B. Consultant possesses the skill, experience, ability, background, certification and knowledge to provide the services described in this Agreement on the terms and conditions described herein; and

C. City desires to retain Consultant to render professional services as set forth in this Agreement.

AGREEMENT

1. Scope of Services. The Consultant shall furnish the following services in a professional manner.

See Attached Scope of Services
(Exhibit A)

2. Time of Performance. The services of Consultant are to commence upon execution of this Agreement and shall continue until all authorized work is completed and approved by the City. Finalization shall be completed at the direction of the City of Yuba City.

3. Compensation. Compensation to be paid to Consultant shall be in accordance with the Schedule of Charges set forth in Exhibit A, which is attached hereto and incorporated herein by reference. In no event shall Consultant's compensation exceed **$2,783,430.00** without additional written authorization from the City. Payment by City under this Agreement shall not be deemed a waiver of defects, even if such defects were known to the City at the time of payment.

4. Method of Payment. Consultant shall submit monthly billings to City describing the work performed during the preceding month. Consultant's invoices shall include a brief description of the services performed, the date the services were performed, the number of hours spent and by whom, and a description of any reimbursable expenses. City shall pay Consultant not later than 30 days after approval of the monthly invoice by City staff. When

payments made by the City equal 90% of the maximum fee provided for in this Agreement, no further payments shall be made until the final work under this Agreement has been accepted by City.

5. Extra Work. At any time during the term of this Agreement, City may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by City to be necessary for the proper completion of the Project, but which the parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization from City.

6. Termination. This Agreement may be terminated by the City immediately for cause or by either party without cause upon fifteen days written notice of termination. Upon termination, Consultant shall be entitled to compensation for services performed up to the effective date of termination. Such compensation is subject to the conditions of Section 4 of this agreement.

7. Ownership of Documents. All plans, studies, documents and other writings prepared by and for Consultant, its officers, employees, agents and subcontractors in the course of implementing this Agreement, except working notes and internal documents, shall become the property of the City upon payment to Consultant for such work, and the City shall have the sole right to use such materials in its discretion without further compensation to Consultant or to any other party. Consultant shall, at Consultant's expense, provide such reports, plans, studies, documents and other writings to City upon request.

* Licensing of Intellectual Property. This Agreement creates a nonexclusive and perpetual license for City to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement ("Documents & Data"). Consultant shall require all subcontractors to agree in writing that City is granted a non-exclusive and perpetual license for any Documents & Data the subcontractor prepares under this Agreement. Consultant represents and warrants that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation and warranty in regards to Documents & Data which were prepared by design professionals other than Consultant or provided to Consultant by the City. City shall not be limited in any way in its use of the Documents & Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at City's sole risk.

Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written

information, and other Documents & Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of City, be used by Consultant for any purposes other than the performance of the services under this Agreement. Nor shall such materials be disclosed to any person or entity not connected with the performance of the services under this Agreement. Nothing furnished to Consultant, which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use City's name or insignia, photographs relating to project for which Consultant's services are rendered, or any publicity pertaining to the Consultant's services under this Agreement in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of City.

8. Consultant's Books and Records:

   a. Consultant shall maintain any and all ledgers, books of accounts, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services, or expenditures and disbursements charged to City for a minimum period of three (3) years, or for any longer period required by law, from the date of final payment to Consultant to this Agreement.
   b. Consultant shall maintain all documents and records which demonstrated performance under this Agreement for a minimum period of three (3) years, or for any longer period required by law, from the date of termination or completion of this Agreement.
   c. Any records or documents required to be maintained pursuant to this Agreement shall be made available for inspection or audit, at any time during regular business hours, upon written request by the City Administrator, City Attorney, City Auditor or a designated representative of these officers. Copies of such documents shall be provided to the City for inspection at City Hall when it is practical to do so. Otherwise, unless an alternative is mutually agreed upon, the records shall be available at Consultant's address indicated for receipt of notices in this Agreement.
   d. Where City has reason to believe that such records or documents may be lost or discarded due to dissolution, disbandment or termination of Consultant's business, City may, by written request by any of the above named officers, require that custody of the records be given to the City and that the records and documents be maintained in City Hall. Access to such records and documents shall be granted to any party authorized by Consultant, Consultant's representatives, or Consultant's successor-in-interest.

9. Independent Contractor. It is understood that Consultant, in the performance of the work and services agreed to be performed, shall act as and be an independent contractor and shall not act as an agent or employee of the City. Consultant shall obtain no rights to retirement benefits or other benefits which accrue to City's employees, and Consultant hereby expressly waives any claim it may have to any such rights.

Consultant is not a designated employee within the meaning of the Political Reform Act because Consultant:

a. Will conduct research and arrive at conclusions with respect to his/her rendition of information, advice, recommendation or counsel independent of the control and direction of the City or of any City official, other than normal agreement monitoring; and

b. Possesses no authority with respect to any City decision beyond rendition of information, advice, recommendation or counsel. (FPPC Reg. 18700(B)(2).)

10. Interest of Consultant. Consultant (including principals, associates and professional employees) covenants and represents that it does not now have any investment or interest in real property and shall not acquire any interest, direct or indirect, in the area covered by this Agreement or any other source of income, interest in real property or investment which would be affected in any manner or degree by the performance of Consultant's services hereunder. Consultant further covenants and represents that in the performance of its duties hereunder no person having any such interest shall perform any services under this Agreement.

11. Professional Ability of Consultant. City has relied upon the professional training and ability of Consultant to perform the services hereunder as a material inducement to enter into this Agreement. Consultant shall therefore provide properly skilled professional and technical personnel to perform all services under this Agreement. All work performed by Consultant under this Agreement shall be in accordance with applicable legal requirements and shall meet the standard of quality ordinarily to be expected of competent professionals in Consultant's field of expertise. Consultant will reperform any services not meeting this standard without additional compensation.

12. Compliance with Laws. Consultant shall use the standard of care in its profession to comply with all applicable federal, state and local laws, codes, ordinances and regulations.

13. Licenses. Consultant represents and warrants to City that it has all licenses, permits, qualifications, insurance and approvals of whatsoever nature, which are legally required of Consultant to practice its profession. Consultant

represents and warrants to City that Consultant shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement, any licenses, permits, insurance and approvals which are legally required of Consultant to practice its profession. Consultant shall maintain a City of Yuba City business license.

14. Indemnity. Consultant agrees to defend, indemnify and hold harmless the City, its officers, officials, agents, employees and volunteers from and against any and all claims, demands, actions, losses, damages, injuries, and liability, direct or indirect (including any and all costs, including attorney fees and expenses in connection therein), arising out of the performance of this Agreement in whole or in part by any negligent act or omission of the Consultant, or anyone directly or indirectly employed by the Consultant or anyone for whose acts the Consultant may be liable, or its failure to comply with any of its obligations contained in this Agreement, except for any such claim arising out of the sole negligence or willful misconduct of the City, its officers, agents, employees or volunteers.

15. Insurance Requirements. Consultant, at Consultant's own cost and expense, shall procure and maintain, for the duration of the contract, necessary insurance policies as described in Exhibit B.

16. Notices. Any notice required to be given under this Agreement shall be in writing and either served personally or sent prepaid, first class mail. Any such notice shall be addressed to the other party at the address set forth below. Notice shall be deemed communicated within 48 hours from the time of mailing if mailed as provided in this section.

If to City	Diana Langley Public Works Department City of Yuba City 1201 Civic Center Blvd Yuba City, CA 95993 (530) 822-4632
If to Consultant:	Jason Junkert Project Manager Jacobs 2485 Natomas Park Drive, Suite 600 Sacramento, CA 95833 (916) 286-0426

17. Entire Agreement. This Agreement constitutes the complete and exclusive statement of Agreement between the City and Consultant. All prior written and oral communications, including correspondence, drafts, memoranda, and representations, are superseded in total by this Agreement.

18. Amendments. This Agreement may be modified or amended only by a written document executed by both Consultant and City and approved as to form by the City Attorney.

19. Assignment and Subcontracting. The parties recognize that a substantial inducement to City for entering into this Agreement is the professional reputation, experience and competence of Consultant. Assignments of any or all rights, duties or obligations of the Consultant under this Agreement will be permitted only with the express consent of the City. Consultant shall not subcontract any portion of the work to be performed under the Agreement without the written authorization of the City. If City consents to such subcontract, Consultant shall be fully responsible to City for all acts or omissions of the subcontractor. Nothing in this Agreement shall create any contractual relationship between City and subcontractor nor shall it create any obligation on the part of the City to pay or to see to the payment of any monies due to any such subcontractor other than as otherwise is required by law.

20. Waiver. Waiver of a breach or default under this Agreement shall not constitute a continuing waiver of a subsequent breach of the same or any other provision under this Agreement.

21. Severability. If any term or portion of this Agreement is held to be invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

22. Controlling Law Venue. This Agreement and all matters relating to it shall be governed by the laws of the State of California and any action brought relating to this Agreement shall be held exclusively in a state court in the County of Sutter.

23. Litigation Expenses and Attorneys' Fees. If either party to this Agreement commences any legal action against the other party arising out of this Agreement, the prevailing party shall be entitled to recover its reasonable litigation expenses, including court costs, expert witness fees, discovery expenses, and attorneys' fees.

24. Mediation. The parties agree to make a good faith attempt to resolve any disputes arising out of this Agreement through mediation prior to commencing litigation. The parties shall mutually agree upon the mediator and shall divide the costs of mediation equally. If the parties are unable to agree upon a mediator, the dispute shall be submitted to JAMS/ENDISPUTE ("JAMS") or its successor in interest. JAMS shall provide the parties with the names of five qualified mediators. Each party shall have the option to strike two of the five mediators selected by JAMS and thereafter the mediator remaining shall hear

the dispute. If the dispute remains unresolved after mediation, either party may commence litigation.

25. Execution. This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by both parties hereto. In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

26. Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and to bind each respective party.

27. Prohibited Interest. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising there from.

28. Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subcontractor, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex or age. Such non- discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination. Consultant shall also comply with all relevant provisions of City's Affirmative Action Plan or other related programs or guidelines currently in effect or hereinafter enacted.

29. Data. City will provide to Consultant relevant data in City's possession relating to Consultant's services on the project upon request. Consultant will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by City.

30. Force Majeure. Any delays in Consultant's Services caused by the following shall be added to the time for completion of any obligations of Consultant: (1) the actions of City or its employees; (2) the actions of those in direct contractual relationship with City; (3) the actions of any governmental agency

having jurisdiction over the Project; (4) the actions of any parties not within the reasonable control of the Consultant; and (5) any act of God or other unforeseen occurrence not due to any fault or negligence on the part of Consultant. Neither the City nor the Consultant shall be liable for damages, liquidated or otherwise, to the other on account of such delays.

31. Suspension, Delay or Interruption of Work. City may suspend, delay, or interrupt the Services of Consultant for the convenience of City. In such event, Consultant's contract price and schedule shall be equitably adjusted upon mutual agreement of the City and Consultant.

32. Subsurface Investigations. In soils, foundation, groundwater, and other subsurface investigations, the actual characteristics may vary significantly between successive test points and sample intervals and at locations other than where observations, exploration, and investigations have been made. Because of the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that could affect total project cost and/or execution. Any such subsurface investigations undertaken by Consultant shall be performed pursuant to the applicable professional standard of care.

33. Hazardous Substances. If hazardous substances in any form are encountered or suspected, Consultant will stop its own work in the affected portions of the project to permit testing and evaluation. If hazardous substances are suspected, Consultant will, if requested, conduct tests to determine the extent of the problem and will perform the necessary studies and recommend the necessary remedial measures at an additional fee and contract terms to be negotiated. City recognizes that Consultant assumes no risk and/or liability for a waste or hazardous waste site originated by other than Consultant.

34. Consultant's Personnel at Construction Site. The presence or duties of Consultant's personnel at a construction site, whether as onsite representatives or otherwise, do not make Consultant or Consultant's personnel in any way responsible for those duties that belong to the City and/or the construction contractors or other entities, and do not relieve the construction contractors or any other entity of their obligations, duties, and responsibilities, including, but not limited to, all construction methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the construction work in accordance with the construction Contract Documents and any health or safety precautions required by such construction work. Consultant will coordinate its health, safety, and environmental program with the responsibilities for health, safety, and environmental compliance specified in the contract documents. Consultant will coordinate with responsible parties to correct conditions that do not meet applicable federal, state, and local occupation health and safety laws and regulations when such conditions expose Consultant staff or staff of

consultant subcontractors to unsafe conditions. Consultant will notify affected personnel of any site conditions posing an imminent danger to them that Consultant observes. Consultant is not responsible for the health or safety precaution of City of Contractor staff. Consultant is not responsible for the Contractor's compliance with the health and safety requirements of the contract documents or with federal, state, and local occupational health and safety laws and regulations. Consultant and Consultant's personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions and have no duty for inspecting, noting, observing, correcting, or reporting on health or safety deficiencies of the construction contractor(s) or other entity or any other persons at the site except Consultant's own personnel. The presence of Consultant's personnel at a construction site is for the purpose of providing to City a greater degree of confidence that the completed construction work will conform generally to the construction documents and that the integrity of the design concept as reflected in the construction documents has been implemented and preserved by the construction contractor(s). Consultant neither guarantees the performance of the construction contractor(s) nor assumes responsibility for construction contractor's failure to perform work in accordance with the construction documents. For this agreement only, construction sites include places of manufacture for materials incorporated into the construction work, and construction contractors include manufacturers of materials incorporated into the construction work.

35. Consultant Listed as Additional Insured by Contractor. The City shall require the prime contractor on the Project to name Consultant as additional insured on the contractor's commercial general liability insurance policy.

36. Record Drawings. Record drawings, if required, will be prepared, in part, on the basis of information compiled and furnished by others, and may not always represent the exact location, type of various components, or exact manner in which the project was finally constructed. Designer will make a good-faith effort to verify the accuracy of such information by means of a thorough interior and exterior visual survey of site and project conditions. Consultant is not responsible for any errors or omissions in the information from others that is incorporated into the record drawings provided Consultant has reviewed such information and prepared the record drawings in accordance with the applicable professional standard of care.
37. Contractor Invoice Review. Recommendations by Consultant to City for periodic construction progress payments to the construction contractor(s) will be based on Consultant's knowledge, information, and belief from selective sampling that the work has progressed to the point indicated. Such recommendations do not represent that continuous or detailed examinations have been made by Consultant to ascertain that the construction contractor(s) have completed the work in exact accordance with the construction

documents; that the final work will be acceptable in all respects; that Consultant has made an examination to ascertain how or for what purpose the construction contractor(s) have used the moneys paid; that title to any of the work, materials, or equipment has passed to the City free and clear of liens, claims, security interests, or encumbrances; or that there are not other matters at issue between the City and the construction contractors that affect the amount that should be paid.

38. Access to Facilities and Property. The City will make its facilities accessible to Consultant as reasonably necessary for Consultant's performance of its services upon timely request by Consultant.

39. Key Personnel. The Consultant will utilize its staff, including the following Key Personnel noted in the Proposal: David Wilson, Kyle Winslow, Mitchell Swanson, Lorin Davis, Matt Franck, Quitterie Cotton, and Jason Junkert. Except for substitutions required by circumstances not within its reasonable control, the Consultant may not make substitutions of Key Personnel without the prior written consent of the City, which consent will not be unreasonably withheld, delayed, or conditioned. For the purposes of this Section, "substitutions required by circumstances not within its reasonable control" means substitutions required by virtue of illness, death, injury, pregnancy, medical leave, or termination of employment or contract, but expressly excludes situations where the Key Personnel employee is called upon to perform services for another client of the Consultant, its Sub-contractor or their affiliates.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first written above.

CITY OF YUBA CITY:

By: _____
Steven C. Kroeger
City Manager

CONSULTANT:

By _____ for
Brett Isbell
Designated Manager

Attachments: Exhibit A – Scope of Services
Exhibit B - Insurance Requirements

Exhibit A

Scope of Work
Yuba City WWTF – Outfall and Diffuser Project

This Scope of Work is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

Tasks 1 through 12 as described below, including all subtasks, are included in this Scope of Work.

Task 1. Predesign

Task 1.1 – Review of Existing Studies

- Technical studies and data collections performed for the outfall relocation effort will be obtained from the City and reviewed in detail. These existing studies include the *Hydrogeomorphic Study of Diffuser Siting Options* (2013), the *Diffuser Relocation Study* (2017), compiled land (LIDAR) and river (bathymetric) surveys, as well as initial potential pipeline route layouts by MHM Engineers. We assume that the City will be able to provide the input files and model setup records for the 2-D hydrodynamic and sediment transport models and topographic change detection analysis of the Feather River used by ESA (and Dr. Pasternak).
- Review available geotechnical data for the levee and pipeline route options, river bedform material and bathymetric survey data, current velocity data, background river chemistry data, terrestrial resource information, and relevant Feather River fish use studies for potential new outfall diffuser sites – for use in the design and permitting.
- Review available design drawings and engineering reports related to the effluent pumps and existing effluent pipeline to the Feather River.
- Develop a tabular summary cataloging studies and data sources identified, adequacy and uses of these studies, and identifying assumptions and limitations of studies. Data gaps will be identified in this summary.

City Involvement:

- Provide design drawings and engineering reports related to the effluent pumps and existing effluent pipeline, and facilitate consultation with WWTF operations staff on pumping and pipeline operations and issues.
- Provide design drawings and engineering reports related to the existing pipeline route and the potential new pipeline routes to new outfall site.
- Obtain modeling input files and survey CAD files used by ESA in their 2013 and 2017 geomorphology studies and modeling.

Assumptions:

- We assume that the input files and model setup records for the 2-D hydrodynamic and sediment transport models used by ESA (and Dr. Pasternak) will be provided in electronic files by the City. These files will also include compiled land (LIDAR) and river (bathymetric) surveys. LiDAR coverage is assumed to be available to extend the model to Boyd's Landing (RM 22.6).

- As-built drawings of effluent pump stations, effluent pipeline, and pipeline valves can be provided in CAD electronic file format.
- This activity assumes we will spend up to 24 hours reviewing available modeling documentation

Deliverables:

- Tabular summary cataloging studies and data sources, adequacy and uses of these studies, and identifying assumptions and limitations of studies. Data gaps will be identified and recommendations for additional data collections will be included in this table for review with the City.

Task 1.2 – River Bathymetry and Data Collections

Initial bathymetric survey for 2018 is described below. Follow-on annual bathymetric surveys are described in Task 12 Contingency.

1.2.a Field Operations Plan

- Prepare a concise Field Operations Plan for River Data Collections to include study approach, methods and equipment, schedule, field personnel, and communications plan.

1.2.b Bathymetric Survey and Other Field Data Collections

- Conduct bathymetry survey of the Feather River region below Shanghai Falls (RM 24.5) to Boyd's Landing (RM 22.6) using a sweep-system (multiple single-beam) sonar to record detailed river bed elevation data. JACOBS will engage a specialty hydrographic surveyor to perform this bathymetry survey in summer or early fall 2018. The vessel used for this survey will be provided by the hydrographic surveyor and the survey crew will include an ACSM certified hydrographer.
- Horizontal positions for navigation and data collection will be determined by using a Trimble base and rover system, and Hypack navigation software. The horizontal datum used will be NAD83, California State Plane Zone 2 (U.S. Survey Feet). The vertical datum used by the hydrographic surveyor will be NAVD88 (U.S. Survey Feet).
- Conduct ADCP surveys (velocities and sectional flow) at seven (7) river sections between Shanghai Falls (RM 24.5) and Boyd's Landing (RM 22.6) using a vessel-mounted RDI Workhorse Sentinel 1200 kHz ADCP to log velocities and depths using WinRiver software. Vessel navigation and position recording will use onboard RTK DGPS and the same Trimble base RTK station used in the bathymetry survey, and using Hypack navigation software. The hydrographic surveyor and JACOBS personnel will perform the ADCP surveys from the hydrographic survey vessel on days following completion of the bathymetry survey.
- Collect surface sediment samples at 16-20 sites on the Feather River study region between RM 24.5 and 22.6 using 0.05 meter^2 Ponar sediment sampler. Sediment samples will be submitted for laboratory analysis of particle size distribution by sieve and hydrometer ASTM methods. River sediment sampling to be conducted by JACOBS personnel from the work vessel with DGPS navigation to locate sampling sites, on days following completion of the bathymetry survey and ADCP measurements.
- Identify and validate suitable benchmarks for locating RTK Base Station for use during bathymetry surveys and other data collections on the river. If alternative survey control sites are required then they will be established by MHM and adjusted and calibrated to the most current documentation of NAD83 and NAVD88 (National Geodetic Survey).
- Additional river velocity measurements will be recorded in the river under higher river flows. Three one-day sampling events will be conducted between October 2018 and April 2019. JACOBS will rent a work vessel with licensed operator and GPS navigation, and a single-point electromagnetic or

ADCP current meter for measurements. JACOBS staff will perform one day of river current velocity measurements at 6 stations along 3 river transects (18 sites) near potential diffuser sites in the Feather River. The timing of these field measurements will be determined by river flow and stage, as well as safe working conditions.

- Recording water level dataloggers (duplicate) and barometric pressure recorders (duplicate) will be installed at one site located between RM 23.2 and 23.5 in September 2018 to provide water level data for model calibration, and this installation will be maintained by JACOBS until April 2019. The water level sensor will be installed in a submerged and cable anchored housing along the river shore, and it will be hidden from view onshore and offshore. The location will be marked on land with a metal stake to allow retrieval and servicing.

City Involvement:

- Facilitate access to secure survey benchmarks to allow for locating Trimble base RTK station on tripod during bathymetric survey and field data collection days.

Assumptions:

- Field services will be conducted in accordance with the project FSI and the hydrographic surveyor's Safety Plan. Vessel safety and operational safety will be the responsibility of the hydrographic surveyor. For safety reasons, all field activities on the river will be limited to daylight hours. These field measurements are assumed to require four to six consecutive field days on the Feather River.
- Prior to mobilizing personnel and equipment for any survey work, river flow and stage forecasts will be evaluated to decide if adequate and safe river conditions are forecast for the work period. Seasonal river flows will not restrict boat access and data acquisition to the point of damage or imminent danger to personnel and equipment.
- Maintenance of the recording water level dataloggers in the Feather River will require monthly site visits during November 2018 to April 2019 to retrieve deployed instruments, downloading data, cleaning the housing and instruments, and redeploying.
- All deliverables will be provided to City in an electronic file format (pdf) and limited hard copies can be provided on request.

Deliverables:

- A concise bathymetric survey report will be produced and report charts will be provided. The report charts will include depth contours at 1-foot intervals, color TIN (Triangulated Irregular Networks), and track-lines. Report charts will be produced in the horizontal and vertical datum defined above. This report will describe the control used for the survey, data acquisition methodology, calibrations, and data processing procedures. Report deliverables will include an ASCII file of the XYZ data, AutoCAD and Civil 3D DWG files.
- A concise report of ADCP survey and sediment sampling will be produced, and this report will include instruments and method used, ADCP river sections, ADCP data, and sediment sample site coordinates. In addition to this report, deliverables will include Excel files of the ADCP data.
- Tabular summary of sediment laboratory results.

Task 1.3 – River Bedform and Sediment Transport Modeling

Task Objectives: 1) utilize field data to support stability assessment and sediment transport modeling analysis; 2) develop understanding of short term and long term geomorphic processes in project reach; 3) conduct channel stability assessment to support optimal placement for proposed outfall and diffuser;

and 4) inform outfall diffuser design to maintain functionality through foreseeable variability in sediment bedload transport and bedform conditions. Work activities will include:

- Review and compile relevant data from reports and data provided by City and from publicly available sources, including ESA/PWA reports and Lower Feather River Corridor Management Plan documents.
- Review results of field data collection campaign, process data as needed to support sediment transport modeling analysis, including Feather River channel bathymetry and bed sediment grain size analysis.
- Conduct channel stability assessment and geomorphic process characterization; identify potential ranges of channel geometry and hydraulic conditions in project reach (RM 24 to RM 23).
- Estimate sediment transport modes (bedload vs suspended load), processes (scour and fill) and potential bedform(s) (e.g. sand waves, etc.).
- Evaluate existing and potential future sediment supply scenarios for upstream boundary conditions including Feather and Yuba Rivers.
  - Two model simulations will be conducted with estimates of future flow and associated sediment supply, bracketing a range of reasonable potential future conditions based on project staff's work on similar regional projects.
- Examine potential climate change effects on river flows and sediment transport.
  - Project staff have been conducting climate hazard assessments in the greater San Francisco Bay Area and Sacramento River watershed and will use standard methods to estimate increases in episodic flow events and their impacts on sediment transport. Hydrodynamic and sediment transport models will be run with scaled river inflows to represent the effects of increased precipitation scenarios under future climate. Two additional sensitivity simulations will be conducted with the SRH-2D sediment model to quality impacts for reasonable estimates of climate uncertainty.
- Extend existing SRH-2D hydraulic and sediment transport model to allow simulation of larger flows up to 100-year event (280,000 cfs) and associated sediment transport.
- Conduct sediment bedform analysis to determine potential sand dune height during high flow periods to inform diffuser riser design. The bedform analysis will be conducted using results of the hydraulic model and standard methodologies developed by van Rijn (1982) to estimate the potential bedform heights in the project reach under a full range of expected flows. These dune heights will be used in the design of vertical risers to elevate the diffuser ports above the active river bed to maintain design performance without impedance from the mobile bed.
- Prepare Technical Memorandum documenting review of existing references, field data collection efforts, channel stability analysis, and sediment transport modeling efforts.

City Involvement:

- Provide reviews and input during project review meetings and to the technical memorandum.

Assumptions:

- The river bedform and sediment transport modeling evaluation tasks will be completed at a preliminary investigation level to support pre-design. Further detailed work will be needed to support detailed design and refinements in later levels of completion.
- SRH-2D hydraulic model (ESA/PWA 2013 and 2017) will be provided by City as basis for hydrodynamic and sediment transport evaluation.

- All deliverables will be provided to City in an electronic file format (pdf) and limited hard copies can be provided on request.

Deliverables:

- Draft and final Geomorphology and Sediment Transport Technical Memorandum.

Task 1.4 – Diffuser Design and Modeling TM

Task Objectives:

1. Develop the outfall diffuser design to achieve target design dilutions, address regulatory constraints of the Basin Plan, water quality objectives, Clean Water Act Section 303(d) listings, Endangered Species Act (ESA) and California ESA listed aquatic species, and complies with the State of California *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries (*SIP) for mixing zones, fish passage, and antidegradation rules;
2. Develop diffuser design to provide a reliable and durable discharge structure design for site-specific river bed and flow conditions and with hydraulic requirements; and
3. Develop modeling of diffuser configurations to optimize dilution performance within diffuser site constraints. The activities under this task will include:
    - Develop target design performance dilutions using Yuba City WWTF effluent chemistry data, background Feather River chemistry data, and using reasonable potential analysis spreadsheets.
    - Develop up to five potential outfall diffuser riser and port configuration alternatives and/or sub-alternatives for two river sites that can meet the preliminary civil, structural, and hydraulic performance criteria.
    - Apply pipeline hydraulic model (i.e. WINHYDRO) to outfall diffuser configuration alternatives to evaluate head-loss and port discharge velocities.
    - Apply dilution models to outfall diffuser riser and port configuration alternatives to evaluate dilution performance under dry and wet season discharge conditions. Effluent flows modeled will include three scenarios when a portion of the WWTF flow is split between the river outfall and the ponds. Assume 7Q10 dry season and wet season (Nov.-April) river flow conditions in this screening-level modeling evaluation. Prepare correlation between flow and stage at downstream permanent Feather River gage at Boyd's Landing with river stage measurements recorded by temporary gage near the proposed diffuser site.
    - Models will be tested and compared for design application, including DKHW and UM3. The basis for model selection will be reviewed by our senior modeling expert (Dr. Lorin Davis), and documented in a Diffuser Design and Modeling Report. The diffuser design will compare fixed-orifice ports and elastomeric check valve ports. We would expect to select elastomeric check valve ports to provide the benefits of port velocity equalization and avoidance of sediment intrusion.
    - The diffuser design approach and configuration will include diffuser configuration layouts and modeling iterations that evaluate and incorporate options for future diffuser modifications after installation; and these will include blind flanges on the diffuser to allow addition of ports and port flanges to the diffuser riser pipes that allow for reorientation of diffuser ports.
    - Prepare a Diffuser Design and Modeling TM (to be incorporated into the Predesign Report) for review by internal reviewers and the City. The draft report will be developed based on the sediment bed-form evaluation results using the 2018 bathymetry and data collections, and the dilution modeling described in this task.

- Conduct a Diffuser Design Review Meeting with the City to review alternative concepts for diffusers and to plan the design process and establish design criteria.

City Involvement:

- Provide reviews and input during project review meetings and to the draft deliverables listed under this task.
- Select the safety factor for the diffuser design based on diffuser configuration alternatives and the reasonable potential analyses.
- Select final diffuser location based recommendations in design TM

Assumptions:

- Assume 7Q10 dry season and wet season (Nov.-April) river flow conditions for screening-level modeling evaluation.
- River bed bathymetry and current velocity measurements developed under Task 1.2 will be used in modeling and design inputs. Additional data required for the diffuser design will include: (1) site-specific background river chemistry data for reasonable potential and antidegradation analyses (from the City and other existing upstream sampling sources); (2) results from the river bedform and sediment transport modeling evaluation task, (3) river bedform material composition data; and (4) biological information of the proposed diffuser site in the Feather River.
- The dilution performance of diffuser configurations in the Feather River will be constrained by the low river flow volume, water depths, and river channel geometry. It is assumed the CVRWQCB will not allow the City to utilize complete mix (100%) of the river flow with the City effluent discharge to the river, and some lesser mix will limit the discharge dilutions under low river flow conditions. The City and JACOBS will need to reach agreement with the CVRWQCB on the portion of the river flow (and cross-sectional area) that may be used for dilution mixing prior to the initiation of 30% design (Task 1.10).
- All deliverables will be provided to City in an electronic file format (pdf) and limited hard copies can be provided on request.

Deliverables:

- Draft and final Diffuser Design and Modeling TM.

Task 1.5 – Outfall Pipeline and Pumping Predesign and Evaluation

The purpose of this task is to develop the predesign for the outfall pipeline and to evaluate the pumping requirements for the preferred pipeline routes and new river diffuser.

1.5.a Outfall Pipeline Predesign

- Develop pipeline design criteria to provide a consistent approach for pipeline alternatives and alignment evaluations through the final outfall pipeline design. Design criteria elements will include:
  - Effluent Flows
  - Design Vertical and Horizontal Datum
  - Horizontal and Vertical Alignment
  - System hydraulics criteria and Pump Station considerations
  - Pipeline diameter, material options, linings, and coatings
  - Appurtenances
  - Easements
  - Existing Subsurface Utilities and utility relocations
  - Bifurcation Valve Vault

    - Civil
    - Structural
    - Mechanical
    - Electrical
    - Instrumentation and Control and Telemetry
    - Corrosion
  - Cathodic protection requirements
  - Safety Factors
  - Earthwork and Trench
  - Temporary and permanent easement requirements: location and widths for construction, staging and access
  - Surface and Feather River bankside restoration
  - Navigation aids
  - Traffic Control
  - Safety and Security
  - Biological and cultural resources
  - Construction sequencing and constraints
  - Preliminary operations considerations
- Conduct Pipeline Alignment Alternatives Evaluation for two alignments previously identified by MHM. An analysis matrix will be prepared to evaluate and compare the alignments based on:
  - Pipeline Hydraulics
  - Environmental Compliance and Permitting
  - Stakeholder requirements and Public Impacts
  - Constructability
  - Cost
  - Pipeline Operations and Maintenance
- Prepare Pipeline Alignment Alternatives Evaluation TM that presents the information prepared and evaluated for the pipeline alignments for review and identification of preferred alignment by the City.

1.5.b Pumping Predesign

1. Vacuum Assist Feasibility Evaluation
   - Evaluate feasibility and benefit of incorporating a vacuum-assisted siphon system for the outfall pipeline at the selected levee crossing. Evaluation will include estimated reduction in TDH if vacuum system is used, estimated reduction in annual power consumption, construction cost estimate, and cost-benefit analysis for the vacuum-assisted siphon system.
2. Effluent Pump Station Evaluation
   - Develop hydraulic model of existing effluent pumps, existing outfall pipeline, new outfall pipeline, and new river diffuser to estimate the required TDH at the pump station for the selected pipeline alignment alternative and the design flow projections.
   - Conduct life cycle cost analysis of three different pipe diameters and associated pumping costs for selection of optimum pipeline diameter.

- Evaluate existing effluent pump station wet well geometry and dimensions for compliance with Hydraulic Institute pump station guidelines at ultimate buildout peak hour flow to determine whether wet well modifications are required.
- Evaluate existing effluent flow metering configuration and provide recommended metering approach. If a new flow meter vault is required, predesign and design can be scoped and funded by project amendment.
- Evaluate phased pump improvements based on flow projections and anticipated plant expansions. Evaluation will consider results of hydraulic model and future plant expansions, and will outline an approach for phasing pump replacement to match pump capacity with flow by optimizing existing pump capacity and remaining life to reduce premature replacement of existing and future pumps.
- Evaluate conditions where effluent is pumped to existing disposal ponds. Estimate power consumption for flow splits of average annual flow pumped to existing ponds and new river diffuser. Evaluation will consider flow splits of 0%, 20%, 40%, 60%, 80% and 100% of flow to existing disposal ponds with remaining flow to the new river diffuser.

City Involvement:

- Select preferred pipeline alignment.
- Select preferred pipe material.
- Select preferred pipe diameter.
- Provide direction regarding inclusion of chlorine residual de-chlorination point into pipeline design.
- Provide design flow projections and planned plant expansion information.
- Provide pump curves for existing effluent pumps 1-6.
- Provide effluent pump station wet well and plant site/structural CAD drawings.
- Provide existing outfall pipeline and diffuser drawings.
- Provide electricity rates.
- Provide direction regarding inclusion of vacuum assisted siphon system into pipeline design.

Assumptions:

- Two alignments will be evaluated, each will consider two different outfall locations if necessary.
- 3 pipe materials will be considered for outfall pipeline: Cement Mortar Lined and Coated Welded Steel, Ductile Iron, and HDPE.
- City will select preferred pipe material during review of Draft Design Criteria TM for inclusion in Final Design Criteria TM and overall pipeline design.
- 3 pipe diameters will be evaluated in the life cycle cost analysis, each will use the same Hazen-Williams C-factor for calculation of dynamic head loss.
- City will select preferred pipe diameter during review of Draft Design Criteria TM for inclusion in Final Design Criteria TM and overall pipeline design.
- Vacuum assisted siphon design is included as Task 12.3 to be authorized by City upon review of this Design Criteria TM.
- Alignment evaluation pipeline hydraulics will be estimated using a static MS Excel model.
- Cost estimates will be Class 4 based on preliminary engineering that is 1 to 15 percent complete.
- Hydraulic model will be prepared in AFT Fathom pipe flow software. JACOBS will prepare 1 scenario for the two preferred alternatives and up to 2 model iterations.

- All electrical and control panels are assumed to be contained within the bifurcation valve vault. Design of an above-ground electrical or control building is not included.

Deliverables:

- Draft and Final Design Criteria TM in PDF form will be provided by email.
- Draft and Final Alignment Alternatives Evaluation TM in PDF form will be provided by email.

Task 1.6 – Levee Crossing Predesign

Levee crossing predesign activities will include:

- Prepare predesign criteria for the levee penetration and floodway encroachment work. The predesign will be coordinated with Sutter Butte Flood Control Agency (SBFCA) such that the criteria meets or exceeds the criteria being used in the West Feather River Levee Rehabilitation Project. For instance, one of the key items will be the pipeline will be located outside of the theoretical levee prism and above the 1957 water surface profile or the 200-year water surface whichever is greater.
- Consult with SBFCA regarding the new encroachment. SBFCA does not have any approval requirements but is in the process of making DWR Urban Level of Protection (ULOP) findings for 200-year level of flood protection and FEMA 44 CFR 65.10 certification for 100-year flood protections. These are both critical to the City of Yuba City and Sutter County so all work will need to meet or exceed the criteria for flood protection.
- Prepare certifications for levee penetrations and encroachments on behalf of SBFCA. The predesign will outline the design parameters to ensure that there are no issues with the certification process. All work will meet or exceed CVFPB Title 23, DWR ULOP, and USACE regulations.

Task 1.7 – Geotechnical Exploration

Geotechnical explorations will include field explorations and laboratory testing to evaluated conditions along the proposed pipeline and at the river diffuser.

1.7.a Field Explorations

Soil borings are anticipated at 5 locations along potential pipeline routes (on land) and 2 locations at the outfall/diffuser location. The field exploration will include the following soil borings:

- Four (4) soil borings to maximum depths of 15 ft each, along the preferred pipeline alignment between the beginning of project, and the Feather River Levee crossing
- One (1) soil borings to a maximum depth of 75 ft is anticipated between the Feather River Levee and the Feather River
- Two (2) soil borings to maximum depths of 75 feet below the bottom of river channel within the Feather River.

JACOBS will obtain necessary drilling permits from Sutter County Environmental Health Department, Central Valley Flood Protection Board, and encroachment permits from the City and Sutter County.

Jacobs will coordinate and obtain any necessary right of entry agreements

The borings will be field marked using GPS Methods and taping from landmarks or other features visible from mapping or aerial photographs. A utility locating subcontractor will be used to scan the locations for existing utilities. Jacobs and the drilling subcontractor will use the Underground Services Alert 811 one-call service prior to drilling. Soil boring locations and utility markings will be photographed prior to drilling.

Mobilize truck mounted drill for soil borings along pipeline route adjacent to existing improved roads or streets. Mobilize track-vehicle-mounted drill for soil borings between toe of levee and river.

Mobilize and load a barge drill for Soil boring, from the Boyd's Pump Boat Ramp.

Soil borings will be drilled using hollow-stem auger or mud rotary drilling methods, under observation by a qualified representative of the project geotechnical engineering task lead. Continuous samples will be collected in the upper 10 ft of hollow-stem auger borings along the pipeline alignment. At greater depths, and in mud-rotary drill locations, samples will be collected at maximum depth intervals of 5 ft. Sample collection will be performed in accordance with the procedures of ASTM D1586 or D1587, to be determined in the field based on the interpreted conditions. The field representative will visually examine samples at the time of drilling, and classify the soil material in accordance with the procedures of ASTM D2488. Jacobs will also maintain a written log of the drilling activities, sample depths, observations, sample descriptions, groundwater observations, and other pertinent information.

All soil boring locations will be filled and grouted in accordance with local, state, and permit requirements.

1.7.b Laboratory Testing and Reports

A laboratory testing program will be performed to confirm and provide further detail for soil classifications, determine index properties, and estimate engineering properties for representative samples. Based on observations from the field explorations, and review of recovered samples, Jacobs will select representative samples for the testing. The scope of anticipated testing is summarized in the table below.

Test Description	Anticipated Quantity
Mechanical Sieve Analysis (ASTM 422)	10
Sieve analysis, mechanical and hydrometer (ASTM D422)	20[a]
Amount Finer than U.S. No. 200 Sieve (ASTM D1140)	10
Atterberg Limits (ASTM D4318)	10
Moisture Content (ASTM D2216)	25
Corrosion Series (pH, Sulfates, Chlorides, Resistivity)	3

[a] Performed on sediment samples recovered from Task 1.1.b

City Involvement:

- Review proposed exploration locations.

Assumptions:

- Soils encountered during the field exploration will be free of environmental contamination requiring special monitoring, handling, testing, or disposal

Deliverables:

- Draft and Final Geotechnical Data Report, including an exploration location plan, laboratory test results, typed exploration logs, and a description of the general site geology, and narrative description of findings.

Task 1.8 – Geotechnical Evaluation and Reports

JACOBS will use the findings from the Geotechnical exploration to evaluate pipeline design/pipe support conditions, and prepare a detailed report for use by the design team in preparing plans and specifications for the pipeline, diffuser, and valve vault.

The Geotechnical Report will include the following;

- Geotechnical parameters for pipeline, diffuser, and valve vault design
- Evaluation of pile behavior for support of the outfall/diffuser
- Construction considerations for pipelines and outfall/diffuser

Assumptions:

- The Geotechnical Report will provide design documentation of the recommendations for the project, and will not be a contractor furnished item for bidding purposes.

Deliverables:

- Draft and Final Geotechnical Report.

Task 1.9 – DO Sag Analysis, Anti-Degradation Analysis, and & ROWD

- Develop a Test Plan - as outlined in the current NPDES permit - to determine existing conditions, including determination of all tributaries and flow contributions in the potential DO sag areas (assuming that the City either collects samples or operates four (4) instream monitoring instruments over at least a 2-year period prior to construction and startup of the new diffuser to establish base conditions). JACOBS will assist the City in the selection of suitable water quality instruments and the City will purchase or rent these selected instruments for the monitoring program.
- During the initial field installation of instream DO monitoring instruments, JACOBS will provide an experienced field scientist to assist the City with instrument setup and installations during a three-day period.
- Review water quality data records as they are collected by the City (assume monthly), and make recommendations, if necessary, for Test Plan modifications.
- Develop and perform modeling of the DO impacts created by the City's wastewater ammonia and biological oxygen demand (BOD) discharges via the new outfall diffuser, with calibrations and comparisons using the field measured DO, temperature, and pH data.
- Prepare a report of the Feather River DO Sag Analysis that includes summaries of the field water quality measurements and modeling results of the DO impacts created by the City's wastewater ammonia and biological oxygen demand (BOD) discharges via the new outfall diffuser to fulfill the requirements of Section VI.C.2.b in the City's Order R5-2013-0094.
- As part of the Predesign Report for the new outfall diffuser, a Tier 2 antidegradation analysis will be prepared in accordance with the State of California *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries (*SIP), to document water quality standards compliance for the City's new discharge (as required in the current permit).
- Prepare a new Report of Waste Discharge (ROWD) after the new outfall and diffuser design is completed and it is constructed. This report will be prepared based on the detailed design information applied in the Predesign Report, and updated with effluent chemistry and river water quality data sources collected through the completion of outfall construction and will include dynamic (Monte Carlo) modeling for copper and ammonia.
- Provide recommendations to the City for data collections prior to preparation of the ROWD. Perform quarterly reviews of available effluent sampling data to provide recommendations to the City.

- JACOBS representative will attend two meetings with the City at the CVRWQCB Sacramento office to discuss the DO Sag Analysis Test Plan and results, and two meetings with the City during the development of the ROWD for the new outfall discharge.
- Task lead for JACOBS will attend up to twelve teleconference meetings (1-hour meetings) to review the development of the Test Plan with the City, quarterly data reviews, DO modeling approach, DO modeling results, review Draft DO Sag Analysis Report, review draft antidegradation analysis, plan for new ROWD, and discuss the Draft ROWD review by City and CVRWQCB.

City Involvement:

- Provide test data gathered during sampling and testing
- Provide reviews and input during project review meetings and to the draft deliverables listed under this task.
- Attend teleconference meetings (1-hour meetings) to review the development of the Test Plan with the City, quarterly data reviews, DO modeling approach, DO modeling results, review Draft DO Sag Analysis Report, review draft antidegradation analysis, plan for new ROWD, and review the Draft ROWD. Skype connections will be used to facilitate information sharing during teleconference meetings.
- Attend meetings with JACOBS and CVRWQCB at Sacramento office to discuss the DO Sag Analysis Test Plan and results (two meetings) and the development of the ROWD for the new outfall discharge (two meetings).

Assumptions:

- DO impact modeling will include Streeter-Phelps model and Monte Carlo model.
- All deliverables will be provided to City in an electronic file format (pdf) and limited hard copies can be provided on request.

Deliverables:

- Draft and final Test Plan for the Feather River DO Sag Analysis
- Draft and final Feather River DO Sag Analysis Report
- Draft and final ROWD

Task 1.10 – 30% Design Development, Predesign Report, Schedule, and Cost Estimate

The activities under this task will include:

- Develop a 30% Design Submittal including: plan and profile drawings, drawings index, and table of contents for technical specifications.
- Prepare a Class 3 construction cost estimate (-20% to +30%)
- Prepare a Draft Predesign Report for City review (and eventual submittal to CVRWQCB once finalized in 60% design phase). The report will include: project background, objectives and benefits; existing outfall conditions; river site physical characteristics and a summary of the sediment bed-form analyses; outfall design inputs and considerations (effluent flow and hydraulics, discharge dilutions, water quality standards compliance, structural requirements) and review of improvement options; and details of the selected outfall pipe and diffuser alternative (construction methods and materials, 30% design drawings, schedule, permitting, and construction cost estimate).
- Prepare updated project schedule.

City Involvement:

- Provide reviews and input during project review meetings and to the draft deliverables listed under this task.
- Attend teleconference meetings (1-hour meetings) to review the development of the outfall pipeline alternatives, hydraulics results, review of the 30% Design Submittal, and review of the Draft Predesign Report. Skype connections will be used to facilitate information sharing during teleconference meetings.

Assumptions:

- Development of civil, structural, and hydraulic design for the new outfall pipeline and diffuser will be limited by the available information on the existing outfall pipeline condition and information developed on the Feather River outfall route and diffuser site.
- 30% Design development of civil, structural, and hydraulic design of the outfall pipeline and diffuser will focus on the one alternative selected by the City.
- The Draft Predesign Report will incorporate the River Bed-form and Sediment Transport Evaluation TM and the Diffuser Design and Modeling Report, and other TMs associated with design development as described in Task 1. If the City elects to not have JACOBS perform the River Bedform and Sediment Transport Evaluation that includes hydrodynamic and sediment transport evaluations for a range of river flows and stages, then the City will be accepting added risk and uncertainty in the diffuser design life because the design will not have input on potential changes and trends in river bedform elevations at the diffuser site.
- This task does not include development of WWTF effluent pump station, flow metering or yard piping modifications. Modifications for these facilities are described in optional Task 12.
- All deliverables will be provided to the City in an electronic file format and limited hard copies can be provided to the City on request.

Deliverables:

- Draft Predesign Report with Class 3 Construction cost estimate
- 30% Design Submittal

Task 1.11 – Predesign Meetings and Workshop

- Conduct three (3) Predesign teleconference meetings (3-hour meetings) with the City to review predesign inputs and development, and to establish design criteria.
- Conduct an Outfall and Diffuser Project Predesign Workshop with the City to review alternative concepts for outfall pipeline designs, pumping scenarios and approaches, diffuser design configurations, constructability, and permitting considerations.

City Involvement:

- Attend three (3) teleconference meetings (3-hour meetings) to review the development of the outfall and diffuser design development. Skype connections will be used to facilitate information sharing during teleconference meetings.
- Attend Outfall and Diffuser Project Predesign Workshop at the WWTF.
- Provide reviews and input during project review meetings and to meeting notes.

Assumptions:

- All deliverables will be provided to the City in an electronic file format and limited hard copies can be provided on request.

Deliverables:

- Agendas and meeting minutes from project meetings and the Predesign Workshop.

Task 1.12 – Surveying and Mapping

- Field survey operations will commence by locating the centerline of the proposed design alignment on the ground to establish stationing and extend primary and secondary survey control monuments along the alignment. All control surveys will be conducted utilizing a combination of Global Positioning System (GPS) technology and conventional survey methods. The method used to capture the point data will be controlled by the accuracy specifications required by the project specifications. Permanent control monuments will be established outside the project limits for later use with supplemental topographic and construction surveys.
- Conduct the topographic survey at 100-foot intervals over a 100- foot width along the alignment from the northerly project limit extending south and crossing the west levee of the Feather River to the west bank.
- Captured point data from initial control surveys will be immediately evaluated and post processed to conform to the project accuracy standards. The processed control data shall be adjusted and calibrated to the most current documentation of NAD83 and NAVD88 by the National Geodetic Survey. All point data captured for the topographic mapping will be post processed and exported in an ASCII format and imported into an electronic drawing file to initiate the development of the final base mapping.
- The topographic survey for the project shall capture all surface data within the 100-foot strip along the alignment and/ or outside the project area as directed. The survey work will identify all information requested by the engineering design team including but not limited to surface features, existing utilities, geotechnical borings, potholes, trees larger than 6 inches in diameter and tree species, ground profile, critical points of connection and features creating design constraints. The base mapping will include the line work of existing surface improvements, property lines where practical, underground utilities of record or from "as built" documents and the preparation of a digital terrain model (DTM) using the post processed point data from the topographic surveys. Break lines of the DTM will be determined based on the collected survey data and field notes identifying accurate physical conditions in the field. Surface modeling is proposed to develop minor contours at one foot (1') and major contours at five feet (5') utilizing the triangular irregular network (TIN) lines developed through the software Autodesk Civil 3D with AutoCAD 2017. The base mapping shall be refined as necessary to conform to the requirements of the engineering design team.

Assumptions:

- All survey work is proposed to be based upon the North American Datum of 1983 (NAD83) and the North American Vertical Datum of 1988 (NAVD88) calibrated to local control monuments established and documented by the National Geodetic Survey.
- Length of alignment to mapped is assumed to be not more than 10,000 feet.

Deliverables:

- Topographic Survey
- Digital Terrain Model (DTM)

Task 1.13 – Utility Investigations

1.13.a – Utility Investigation

- Conduct an existing utility investigation by contacting utility owners in the project area and prepare a list of providers. The list will include names of providers, responsible contacts, addresses, phone numbers, and email addresses for each.
- Prepare and send letter and exhibit showing project area to utility owners requesting utility record drawings for existing and proposed future utilities. Letter will request any procedures or design requirements for relocating or crossing utilities.
- Collect and organize record drawing maps provided by utility owners and maintain a list of information obtained by the providers.
- Perform field reconnaissance and verification of received utility information and to identify utilities that information was not received for or privately-owned utilities.

1.13.b – Potholing

- After selection of a preferred pipeline alignment, prepare a list of recommended potholing locations. List of potholing locations will be accompanied with an aerial map that defines visually the location of the desired potholing.
- Contract with a competent subcontractor to pothole utilities. Field generated pothole site maps will be developed as part of the field work which will document depth and dimensions to the potholed utility.

City Involvement:

- Provide record drawings for all City utilities in the project location.

Assumptions:

- Up to 8 potholes will be required through final design.
- Surveying for the exposed utilities is provided in Task 1.13.
- All necessary permits will be acquired by potholing subcontractor.

Deliverables:

- Utility provider contact list (agency, name, phone number, etc.)

Task 2. Right of Way Acquisition

Task 2.1 – Survey Support for Right of Way Acquisition

Survey Support for Right of Way Acquisition will be provided by MHM. The following subtasks are included:

2.1.a Boundary Surveys (includes research and boundary resolution)

1. Research:
    - Once the design alignment has been selected and the required construction easements and permanent right of way limits are defined the initial survey work for this task shall commence with examination of written evidence through records research necessary to identify the described location of the properties underlying the selected alignment. The research will include public record of subdivision maps, parcel maps, records of survey, corner records, right of way documents, miscellaneous maps as well as all available private records sufficient to identify the affected boundaries with reasonable certainty.

2. Reconnaissance and Field Surveys:
    - Coordinate surveying services with the project right of way agent to prepare the initial documents for property appraisal and acquisition negotiation.
    - Search and recover survey monuments identified through the project research to locate the proposed easement and right of way positions on the ground during the negotiation process.
3. Survey Documents
    - Prepare survey documents in coordination with the project right of way agent and include a legal description and exhibit plat identifying the right of way and easements required for each affected property. Modifications to the easement and right of way documents will be provided throughout the right of way acquisition process.

File a Record of Survey to document the right of way acquisition to conform to Section 8762 of the California Professional Land Surveyors Act.

- Provide ROW support during acquisition of easement or right-of-entry required for this project. An APN list of the 6 parcels needed for the project are included below. It is anticipated that the project will require right-of-way in form of easements from the following parcels:
    - Netherby REV 04 Trust ETAL (23-110-007)
    - Surjeet Takhar (23-040-014)
    - Surjeet Takhar (23-040-018)
    - Red Hawk Farms LLC (23-110-003)
    - George R McFeely ETAL (23-040-019)
    - Levee District No. 1 of Sutter County (23-040-020)

Assumptions:

- Initial right of way and easement locations will be revised once during the acquisition process due to potential property negotiation, design changes, or the eminent domain process.

Deliverables:

- Field data Boundary Survey and Resolution
- Record of Survey

2.1.b Right-of-Entry Agreement from Existing Landowners

- Obtain right-of-entries from six (6) landowners to perform design, environmental, and right-of-way surveys. Initial contact the landowners will be made with the use of standard forms followed by a site visit with the landowners to explain the project and the purpose of the survey.
- Communicate and coordinate all contact with the Right-of-Way Agent to meet the spirit of Section 846.5 (a) of the Civil Code of California which grants licensed land surveyors the right of trespass.

2.1.c Preparation of Plats and Descriptions

- Prepare survey documents in coordination with the project right-of-way agent and include a legal description and exhibit plat identifying the right-of-way and easements required for each affected property.
- Include the recently acquired SBFCA easements and Fee Title on the exhibits. Some of these transactions are still pending so will work with SBFCA to acknowledge the future transactions. It has been our experience that initial right of way and easement locations are revised at least once during the acquisition process due to property negotiation, design issues or the eminent domain process.

MHM is prepared to accommodate the modifications to the easement and right of way documents throughout the right of way acquisition process.

2.1.d Field Location of Proposed Easement Areas

- Work with the Right-of-Way Agent to perform "show me" staking along the proposed right-way limits. The "show me" stakes will be placed every 100 to 200 feet so the property owner can visually see the impact of the proposed easement.

2.2.e Preliminary Title Reports

- Obtain Preliminary Title Reports from Old Republic Title Company or First American Title Company. The Preliminary Title Reports will be used to perform the research on existing easements, boundary, ownership, and other potential restrictions. It is anticipated that the project will require Preliminary Title Reports on the following parcels:
  - Netherby REV 04 Trust ETAL (23-110-007)
  - Surjeet Takhar (23-040-014)
  - Surjeet Takhar (23-040-018)
  - Red Hawk Farms LLC (23-110-003)
  - George R McFeely ETAL (23-040-019)
  - Levee District No. 1 of Sutter County (23-040-020)

Deliverables:

- Survey Right of Entry
- Plats and Descriptions for six (6) parcels
- Preparation of Easement Acquisition Figures for six (6) parcels
- One set of "show me" staking for up to six (6) parcels
- Preliminary Title Reports

Task 2.2 – Appraisal and Acquisition Services

Appraisal and Acquisition Services will be provided by Bender Rosenthal and are described as follows.

2.2.a Valuation Services

- Develop complete appraisals for the City that state the estimated fair market value of the interests to be acquired from each referenced property.
- Prepare summary appraisal reports in conformance with and subject to the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute, which fully incorporate the Uniform Standards of Professional Appraisal Practice (USPAP) of the Appraisal Foundation. Jurisdictional exceptions may apply in some cases.

Assumptions:

- The Code of Federal Regulations [49 CFRs 24.102 (c) 2] provides that an appraisal is not required for parcels estimated at $10,000 or less. Use of this method assumes the valuation problem is uncomplicated and the fair market value is estimated at $10,000 or less based on a review of available data. The $10,000 amount includes severance damages but excludes any insignificant construction contract work. The "Waiver Valuation" is not an appraisal and is to be used merely for documentation in support of the estimated compensation to be paid to the property owner. Criteria considered in making the determination as to "uncomplicated" valuations included:
  - There is no serious question as to the highest and best use;
  - There is adequate market data available;
  - There are no substantial damages and benefits involved;

  - All interests in parcels are estimated to be valued at less than $10,000; and
  - There is no substantial decrease in market value due to the presence of hazardous material/ waste.
- Waiver Valuations cannot be used to condemn. Should court action be determined necessary, an Appraisal Report will be required, resulting in the additional work not included in this SOW.
- For the purposed of this SOW, it is assumed that 6 appraisals will be completed.
- In the event the major improvements are located on the remainder and not subject to potential severance damages, the appraiser may elect not to value these improvements. This is assumed to be the case for most of the properties affected by this project. If it is later determined that the improvements are affected, additional SOW and budget will be required.
- Ultimately, the fair market value opinions and conclusions within the appraisal report will be used as the basis for the City to establish the offer of just compensation as required by law.
- This scope specifically excludes any goodwill appraisals, dual appraisals, furniture/fixture/equipment appraisals, and detailed construction cost estimates for site reconfiguration or building reconstruction.
- Plats and legal descriptions for each of the properties to be appraised will be provided to BRI by the Client. Preliminary Title reports are not included in this SOW.
- Some of the items that may affect the appraisal process include:
  - Complexity of the valuation;
  - Impact of the interests to be acquired (e.g. Temporary Construction Easements, Public Utility easements, or Fee Acquisitions).
  - Damage Analysis (Severance Damage, Cost to Cure, etc.)
- No residential or business relocation is involved.
- Full documentation to Federal and State standards for all tasks.
- No expert witness testimony is anticipated.
- No Coordination with State or Federal RW departments, other than listed in scope.
- Notice of Decision to Appraise letters will be sent within 5 days of task authorization.
- No significant severance damages are anticipated.

Deliverables:

- One electronic copy of each Appraisal Report; hard copy to be provided if requested – up to 6

2.2.b Appraisal Review

Per Federal and State regulations, (Uniform Act) a qualified reviewing appraiser shall examine all appraisals to assure that they meet applicable appraisal requirements and shall, prior to acceptance, seek necessary correction or revisions. In addition, the review appraiser shall certify that the opinion of fair market value is reasonably supported by an acceptable appraisal.

Deliverables:

- Review certification appraisal reports – up to 6.

2.2.c Acquisition Services

- Develop all contracts, conveyance documents and escrow instructions necessary to make offers in accordance with state and federal laws and following our client's processes.
- Prepare the offer letter based on the "Just Compensation" value determined by the County staff.
- Meet with the owners and convey documents until acceptance or impasse is reached regarding necessary acquisitions and easements.
- Contact each property owner at least six (6) times within the first 60 days of approval to proceed.
- Meet with each owner at least one time in person and may make additional contacts by phone, e-mail or through the postal service.
- Steps within the acquisition process are outlined below and will be tailored to the client's need for services:

  1. Review the project concept and design with staff and other consultants.
  2. Review appraisals, title reports, maps and descriptions of the required parcels.
  3. Conduct field review of the project area.
  4. Prepare purchase agreements contracts and other acquisition documents.
  5. Meet with the property owners to discuss the project in general; review of maps and legal descriptions; confirm information about occupants/owners and make the official First Written Offer to owner.
  6. The acquisition task assumes a settlement by the sixth contact either in person, telephone, or e-mail. A recommendation to client will be made after impasse has been reached. To reach impasse:

     A. Go through the *acquisition steps* outlined; plus

     B. Make up to six attempts to contact the owner (personal call, letter or phone call) in any combination. Contact attempts will be made at least once each week; plus

     C. Respond to property owner inquiries verbally and in writing within two business days.

  7. Deliver signed purchase agreement and signed and acknowledged documents for a closed transaction or deliver a memorandum explaining impasse.
  8. If the property owner provides a counter-offer, BRI staff will prepare a recommendation to the client to accept, reject, or modify the counter-offer.
  9. If the client accepts the counter-offer, BRI will prepare up to one (1) Administrative Settlement that complies with State and Federal guidelines.
  10. BRI will work with all parties to encourage acquisition within 60 days of the approval of the appraisal.
  11. BRI's acquisition agents will maintain a parcel diary to document all interactions with property owners and their tenants.
  12. BRI will prepare escrow instructions for Title to clear exceptions as needed

- The following items are excluded from this SOW but can be added using Contingency upon the City's authorization:
  - Obtaining tenant consent/releases or quit claim deeds
  - Providing support for Resolutions of Necessity and/or condemnation activities

- Continued negotiations with property owners after the RON is obtained

Deliverables:

- Signed Purchase Agreements and Permanent Easement or Temporary Construction Easement Deeds from up to 6 parcels

2.2.d Escrow Services

- To facilitate the closing of the various property acquisition transactions, the project will need escrow and title support. The exact scope for this task cannot be exactly estimated, therefore an allowance of $3,900 is included.
- Activities which may be necessary as part of this task include:
  - Review existing easements and permits. Prepare escrow instructions to clear title exceptions as necessary.
  - Review legal descriptions and plats for the project.
  - Title Company to draft consent to easement, and/or subordination agreement. Title Company to follow through with appropriate lenders, beneficiaries and trustees.
- Prepare and send Request for Invoice and Demand to the Title Company.
- Copy and forward fully executed easement deed and purchase agreement to City for acceptance.
- Receive approved fully executed purchase agreement from the City. Forward approved executed copy to property owner.
- Review the Final Policy of Title to assure that all Title has cleared all exceptions indicated in the escrow instructions. Coordinate escrow closings.
- Send all executed acquisition documents through escrow and transmit to the appropriate parties, (property owner and City)
- Prepare transmittal and forward closed files to the City's Project Manager.
- Does not include research and securing owner's Trust Certificates and Statement of Identities.

Deliverables:

- Facilitate Title and Escrow support as outlined above for up to 6 parcels.

Task 3. Design

Task 3.1 – Prepare 60% Design Documents

The purpose of this task is to develop draft contract drawings, specifications, and cost estimate for City review. Key activities during this phase are described below.

3.1a 60% Design Plans and Specifications

- Develop a 60% Design of the selected alternative during the 30% design development phase. The 60% submittal will include plan and profile drawings, details drawings, updated drawings index, and table of content with first draft of technical specifications.
- 60% Design Submittal will consist of 64 sheets that will include the following sheets as described in the Preliminary Drawing List included in **Appendix A**:
  - 12 General Sheets (cover sheet, lists of drawings, general notes, abbreviations, 5 legend sheets, a key plan and Survey control, hydraulic profile, and construction access).

- 8 Plan and Profile sheets
- 12 Civil Sheets (8 Levee crossing design sheets, 2 pipeline cross section sheets, 1 river restoration plan, 1 bifurcation vault detail)
- 5 Structural/Mechanical Sheets
- 2 Electrical sheets
- 3 I&C Sheets
- 8 Traffic Control Plans
- 6 Standard Details sheets
- 8 Contingency sheets

- Control Narrative for the new bifurcation valve vault

City Involvement:

- Review draft documents and comment.
- Attend three 1.5-hour teleconference meetings to review and discuss 60% design development, construction approaches.

Assumptions:

- This task does not include development of WWTF effluent pump station, flow metering or yard piping modifications. Modifications for these facilities are described in optional Task 12.
- All deliverables will be provided to the City in PDF file format and 5 hard copies will be provided.

Deliverables:

- 60% Design Submittal with 11 x 17 Drawings and Specifications
- Updated Design TMs

3.1b Technical Workshops – 60% Design

- Following completion of the Predesign Report and 30% Design Drawing deliverables, conduct a Value Engineering workshop. JACOBS will contract with one construction consultant with marine construction experience to perform a value engineering review on the completed 30 percent design drawings. The workshop will solicit input on project design concepts, materials of construction, general construction methods available to construct the project, as well as potential cost or schedule considerations. JACOBS will review the value engineering comments with the City and determine which comments, if any, should be incorporated into the 60% design.
- During this phase, one Technical Workshop will be facilitated with City staff to review the development of the design and work products. Workshop materials will be developed based on the technical work being conducted, and presented to the City in a workshop.

City Involvement:

- Attend 60% Design Workshops.

Assumptions

- For the 60% design phase, assume one 4-hour workshop with design leads at WWTF to review the progress of the work, make decisions, and provide direction.
- Travel time and expenses for staff from other offices in included.

Deliverables

- Draft and Final Agendas for Value Engineering workshops
- Meeting notes from Value Engineering workshops
- Agenda and meeting materials in advance of the workshops.
- Draft and final minutes from the 60% workshop, distributed to attendees for comment.

3.1c Quality Management – 60% Design

- As part of each design phase, Jacobs will implement the Quality Management Plan developed in Task 10 Project Management. Quality Assurance (QA) activities will be managed for all discipline Quality Control (QC) review activities with the senior reviewers. Formal QC review will be performed before the City's review of the deliverables.
- JACOBS will perform a constructability review on the completed 60% design package. The constructability review will focus on project element sequencing, schedule considerations, construction document coordination, and general construction methods available to construct the project; and will suggest potential changes or improvements to the project design. The constructability review will also review the 60% design for items identified during the Value Engineering workshops.

Assumptions

- Quality review documentation will demonstrate that the quality review process is complete and review comments are acceptably addressed as a component of the overall records management system.
- The City will consolidate the City staff review comments into one comprehensive package before submitting review comments. Comments will be sent within 2 to 3 weeks of receiving the deliverable.
- This task does not include development of WWTF effluent pump station, flow metering or yard piping modifications. Modifications for these facilities are described in optional Task 12.
- Consultant's responses to the City's consolidated review comments will be returned to the City for their records.

Deliverables

- Responses to City comments to document quality review comments.
- Review-related correspondence with City staff and other external agencies or entities.

3.1d 60% Class 2 Cost Estimate

- Provide construction cost estimate in sufficient detail to provide the expected accuracy range of an AACE International Class 2 cost estimate: -15% to +20%.

Deliverables

- Class 2 cost estimate

City Involvement:

- Review Cost Estimate and provide comments

Task 3.2 – Prepare 90% Design Documents

The purpose of this task is to develop updated draft contract drawings, specifications, and cost estimate for City review based on the 60% draft documents and City review comments. Key activities during this phase are described below.

3.2a 90% Design Plans and Specifications

- Develop a 90% Design Submittal including: plan and profile drawings, details drawings, updated drawings index, and technical specifications.
- The 90% Design will include incorporating 60% design review comments while updating and further developing the 60% design drawings:
  - General Sheets including general notes, legend sheets, key plan and survey control, hydraulic profile, and overall site plan with final location of structures, staging, storage, and construction access.
  - Revised Plan and Profile sheets
  - Updated Civil Sheets with levee crossing design, pipeline cross sections as well as river restoration, bifurcation vault details, and vandalism mitigation measures.
  - Structural and Mechanical plans, sections, and details coordinated with other design disciplines with final location of major equipment, piping, and appurtenances.
  - Revised Electrical and I&C sheets
  - Updated Traffic Control Plans
  - 90% Details including trench sections, outfall and diffuser design and other civil details.
- Updated specifications incorporating comments from the 60% submittal review and reflecting full coordination with drawings. Include final construction sequence, milestones and constraints, measurement and payment, and proposed bid form.
- Loop specifications for the valve vault will be included in the technical specifications based on the Control Narrative prepared during the 60% design.
- Responses to 60% City design review comments will be prepared and transmitted to the City prior to significant work on 90% submittal.

City Involvement:

- Review 90% drawings and specifications and provide comments. Division 0 and 1 specifications will be provided by the City and included in the 90% submittal.
- Attend two 1.5-hour teleconference meetings to review and discuss 90% design development. Skype connections between JACOBS and THE CITY will be used to facilitate information sharing during teleconference meetings.

Assumptions

- PLC programming and modification of the City's SCADA to include effluent pump modifications, new bifurcation valve vault, and vacuum-assisted siphon system (if feasible) will be completed by the City's integrator.
- 90% Design submittal assumes preparation of 64 sheets in the drawing package
- Clarifications and changes to the design submittal documents will be provided as required to address plan review comments from the City.
- Design submittal documents will incorporate and consolidate all changes made during the permit review.
- This task does not include development of WWTF effluent pump station, flow metering or yard piping modifications. Modifications for these facilities are described in optional Task 12.

- All deliverables will be provided in PDF file format and 5 hard copies will be provided to the City

Deliverables

- 90% Design Submittal with 11 x 17 Drawings and Specifications.
- Draft PG&E power service application

3.2b Technical Workshops – 90% Design

- During this phase, one Technical Workshop will be facilitated with City staff to review the development of the design and work products. Workshop materials will be developed based on the technical work being conducted, and presented to the City in a workshop.
- In addition to the workshop with the City described above, the design team will conduct one full-day workshops at the end of design development to review work products associated with that phase of the work.

City Involvement:

- Attend 90% Design Workshops

Assumptions:

- For the 90% design phase, assume two 4-hour workshops with design leads at WWTP location to review the progress of the work, make decisions, and provide direction.
- Travel time and expenses for staff from other offices in included.

Deliverables

- Agenda and meeting materials in advance of the workshops.
- Draft meeting minutes from the workshops, distributed to attendees for comment.

3.2c Quality Management – 90% Design

- QA activities will continue to be conducted during the 90% design phase and will be managed for all discipline QC review activities with the senior reviewers. Formal QC review will be performed before the City's review of the deliverables.

Assumptions

- Quality review documentation will demonstrate that the quality review process is complete and review comments are acceptably addressed as a component of the overall records management system.
- The City will consolidate the City staff review comments into one comprehensive package before submitting review comments. Comments will be sent within 2 to 3 weeks of receiving the deliverable.
- Consultant's responses to the City's consolidated review comments will be returned to the City for their records.

Deliverables

- Responses to City comments to document quality review comments.
- Review-related correspondence with City staff and other external agencies or entities.

3.2d 90% Class 1 Cost Estimate

- Provide construction cost estimate in sufficient detail to provide the expected accuracy range of an AACE International Class 1 cost estimate: -10% to +15%.

Deliverables

- Class 1 cost estimate.

City Involvement:

- Review Cost Estimate and provide comments

Task 3.3 – Prepare 100% Design Documents

The purpose of this task is to develop updated draft contract drawings, specifications, and cost estimate for City review based on the 90% draft documents and City review comments. After the 100% deliverable has been reviewed, final Bid Documents will be prepared as part of Task 5. Key activities during this phase are described below.

3.3a Final Contract Document Completion

- Prepare 100% construction drawings.
- Prepare 100% technical specifications.
- Prepare 100% design documentation.
- Complete 100% checking and coordination review.

City Involvement:

- Review 100% drawings and specifications and provide comments
- Attend two 1.5-hour teleconference meetings to review and discuss 90% design development. Skype connections between JACOBS and THE CITY will be used to facilitate information sharing during teleconference meetings.

Assumptions:

- 100% Design submittal assumes preparation of 64 sheets in the drawing package
- Clarifications and changes to the design submittal documents will be provided as required to address plan review comments from the City.
- Design submittal documents will incorporate and consolidate all changes made during the permit review.
- All deliverables will be provided in PDF file format and 5 hard copies will be provided to the City

Deliverables:

- 100% Design Submittal with 11 x 17 Drawings and Specifications

3.3b Quality Management – 100% Design

- As part of each the Final design phase, QA activities will be conducted for all disciplines activities with the senior reviewers. Formal final QC reviews by the Consulting team will be performed before the preparation of the final drawings and specifications.

Assumptions

- Quality review documentation will demonstrate that the quality review process is complete and review comments are acceptably addressed as a component of the overall records management system.
- The City will consolidate the City staff review comments into one comprehensive package before submitting review comments. Comments will be sent within 2 weeks of receiving the deliverable.
- Consultant's responses to the City's consolidated review comments will be returned to the City for their records.

Deliverables

- Responses to City comments to document quality review comments.
- Review-related correspondence with City staff and other external agencies or entities.

3.3c Final (100%) Cost Estimate

- Provide final revised construction cost estimate to reflect Engineer's Estimate of final drawings and to include final modifications to design and City's 100% comments on previous cost estimate.

Deliverables

- Final revised Class 1 cost estimate.

Task 4. Environmental Services and Permitting

Task 4.1 – California Environmental Quality Act

4.1.a Data Collection and Outreach

- Compile project description information sufficient for a CEQA Initial Study, including project features (including GIS-based exhibits), likely construction methods, and construction schedule.
- Conduct the following database searches:
  - California Historical Resources Information System (Northeast Information Center).
  - Native American Heritage Commission Sacred Lands Database and Native American Tribes list
  - Special-Status Species databases maintained by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Native Plant Society
  - California Natural Diversity Database
  - Known hazardous materials sites recorded on Geotracker and Envirostor
- Conduct the following field data collection tasks:
  - Pedestrian archaeological survey (requires coordination on access to private properties)
  - Test pit excavations along pipeline alignment for potential Native American archaeological sites can be authorized as part of Task 12 Supplemental Services.
  - Reconnaissance-level biological surveys to review potential for special status species (e.g., nesting raptors or yellow-billed cuckoos) and record species observed
  - Stem counts of affected elderberry shrubs within 200 feet of pipeline alignment
- Conduct the following outreach activities:
  - Write information letters to and telephone representatives of potentially affected Native American tribes
  - Coordinate preliminary meeting with City representatives, design team, and the United Auburn Indian Community
  - Coordinate one follow-up meeting with the United Auburn Indian Community (if needed)
  - Prepare draft letters documenting consultation with Native American Tribes consistent with AB 52 requirements
- Coordinate with geotechnical and bathymetric survey teams to ensure data collection on Feather River conditions as potential fish habitat

4.1.b Initial Study and Mitigated Negative Declaration

1. Contents of Initial Study and Mitigated Negative Declaration
   - Compile the information collected in Task 4.1.a into the CEQA Appendix G Initial Study template
   - Prepare remainder of Initial Study analysis information – i.e., minor resources not discussed in Section 4.1.a
   - Editing, QA/QC, and other polishing of the Initial Study including preparation of reference library and administrative record
   - Prepare one Administrative Draft for review by Public Works staff and other City departments following normal City review procedures
   - Prepare on Screencheck Draft for review by Public Works
   - Prepare Mitigated Negative Declaration following preferred City template
   - Prepare public review Initial Study and (Draft) Negative Declaration for a 30-day public and agency review period, including up to 40 hard copies (including 15 hard copies to be filed with the State Clearinghouse)
   - Prepare Mitigation Monitoring and Reporting Plan following preferred City template
2. Processes for IS/MND Adoption
   - Prepare Notice of Availability, and lead the effort to advertise using the following methods:
     - Mailing to property owners and residents with APNs along the project footprint, using information compiled in Task 2 by Bender Rosenthal
     - Mailing to a small stakeholder list (e.g., United Auburn Indian Community, Levee District 1)
   - Respond to comments on the Initial Study, prepare addenda material (if needed), and support City processes to prepare a Staff Report for City Council adoption
   - Attend up to one City Council meeting to help support adoption process
   - File a Notice of Determination with the County Clerk and State Clearinghouse, including payment of "Fish and Game" fees (check for fees to be provided by the City)

Task 4.2 – In Water Permits

1. Corps of Engineers Permit Stack
   - Prepare Pre-Construction Notification for Nationwide Permit 7 (encompassing Section 10 of the Rivers and Harbors Act) of 1899, using standard Sacramento District format
     - Prepare a biological resources information packet to support USACE Section 7 Consultation with NMFS
     - Prepare a biological resources information packet to support USACE Section 7 Consultation with USFWS
     - Prepare a cultural resources information packet to support USACE Section 106 Consultation with SHPO
   - Prepare Section 401 Water Quality Certification application, using standard Central Valley RWQCB format [Fee payment required]
2. California Department of Fish and Wildlife Streambed Alteration Agreement

- Prepare application for Streambed Alteration Agreement (encompassing Section 2081 of the California Endangered Species Act), using standard CDFW application forms. Permit Fee payment will be required, and will be paid separately by the City.

3. State Lands Commission Land Use Lease
   - Prepare application for Land Use Lease, using standard SLC application forms. Permit fee payment will be required, and will be paid separately by the City.

Task 4.3 – Levee Permit

The Levee permit application will be prepared and coordinated by MHM. The following activities will be performed for this task.

- Apply for a CVFPB Encroachment Permit from Central Valley Flood Protection Board.
- Work with Levee District No. 1 of Sutter County and Reclamation District No. 784 to obtain endorsements.
- Prepare the application in accordance with the procedure developed for the West Feather River Project. The application will include the standard application, Environmental Questionnaire, LMA endorsements, APN Map, Surrounding Parcels, USACE Transmittal, Drawing Sheet (will need at least 60% design), and vicinity map, location map, and footprint map.
- Coordinate with design team to get information required for the application.
- Attend and coordinate meetings with CVFPB, USACE, and DWR to facilitate the encroachment process. A complete certified environmental document and at least 60% plans are critical to the process.

Task 4.4 Other Permits

1. Geotechnical Borings
   - Jacobs will prepare a CEQA Notice of Exemption for in-water exploratory borings (CEQA Class 6 Categorical Exemption), and will file the NOE with the Sutter County Clerk and State Clearinghouse.
   - Permits will be required for geotechnical investigations that include in-water borings.
     - USACE Nationwide Permit 6. Prepare technical information supporting use of NWP 6, Survey Activities. A pre-construction notification is not required, but potential impacts (e.g., to adult steelhead migration) must be avoided.
     - RWQCB Water Quality Certification has been issued for NWP 6 – no further action is required.
     - CDFW Streambed Alteration Agreement. Prepare application for Streambed Alteration Agreement (encompassing Section 2081 of the California Endangered Species Act), using standard CDFW application forms. Permit Fee payment will be required, and will be paid separately by the City.
     - SLC Geological/Geophysical Survey Permit. Prepare application for Geological/Geophysical Survey Permit, using standard SLC application forms. Permit Fee payment will be required, and will be paid separately by the City.

2. Other Permits
   - No other discretionary, environmental permits have been identified. However, an allowance for construction permit support is provided for the following permits:

- US Coast Guard
- Sutter County Encroachment Permit (for the portion of Garden Highway in the County)
- Yuba City Encroachment Permit (for the portion of Garden Highway in the City limits)
- Sutter County and Yuba City Tree Permits

Task 4 City Involvement:

- City will prepare a Notice of Exemption for in-water exploratory borings (CEQA Class 6 Categorical Exemption)
- Public Works will coordinate internal review of the Administrative Draft documents, including review by Planning and (if necessary) City Attorney's Office
- Public Works will complete internal check request process for required "Fish and Game" fees, due at Notice of Determination filing
- Completion of CEQA process is at filing of the Notice of Determination, indicating official approval of the project. The City will determine the appropriate City Council action that indicates project "approval" (e.g., Resolution).

Task 4 Assumptions:

- The permitting and design team will provide QA/QC review of levee permitting documents and processes described in this task.
- Project description will be limited to one pipeline alignment for detailed consideration
- Project description assumes that the existing outfall/diffuser would be abandoned in place (no separate in-water construction project)
- Construction vehicle emissions will be less than the CEQA significance thresholds adopted by the Feather River Air Quality Management District. Exceeding the thresholds would require an EIR, which is not included as part of this Task. If an IS/MND is not sufficient, additional SOW is described in Supplemental Services Task 12.
- Meeting participation will be limited to three meetings at 4 hours each with USACE/DWR/CVFPB
- No Phase 1 Environmental Site Assessment (ESA) will be required.
- It is assumed that a Low Threat Discharge Permit will not be required from the RWQCB for outfall pipeline construction or diffuser construction

Task 4 Deliverables:

- Administrative Draft Initial Study
- Screencheck Draft Initial Study
- Mitigated Negative Declaration
- Mitigation Monitoring and Reporting Plan
- Public Review Draft Initial Study and Mitigated Negative Declaration
- Notice of Availability
- Responses to Comments and (if needed) addenda material to update Initial Study
- USACE, RWQCB, CDFW, SLC, and CVFPB draft and final (for submittal) applications

Task 5. Bid Services

Task 5.1 – Contractor Prequalification

Prepare prequalifying criteria and identify prequalified construction contractors for work within the existing levee and river channel. JACOBS will work with the City to identify potential contractors and will request a list of three to five recent projects with similar levee and in-river work that the contractors completed and a list of proposed equipment that will be used for this work from the identified contractors. The contractor pre-qualification process will include the following activities:

- Develop a list of contractors to be invited to complete a pre-qualification process
- Develop criteria for pre-qualification (in conjunction with City staff) and produce a draft and final Request for Qualifications (RFQs)
- Distribute the RFQ to previously identified contractors
- Review contractor Statements of Qualifications (SOQs), and provide a TM evaluating the contractor SOQs and recommending a list of pre-qualified contractors
- Conduct interviews with short-listed contractors if necessary

City Involvement:

- Review and approve JACOBS recommended contractor prequalification criteria
- Approve recommended list of prequalified contractors

Assumptions:

- Request for Qualifications will be a written description of the proposed work and experience requirements, and will not include any drawings.
- Interviews with up to five contractors (if necessary) at the City's WWTF, including two JACOBS staff and one MHM staff for up to three hours

Deliverables:

- Draft and Final Request for Qualifications
- Contractor SOQ evaluation technical memorandum

Task 5.2 – Prepare Bid Documents

- Prepare Bid Documents including final design drawings and specifications and provide to private bidding services company for project advertisement and distribution of Bid Documents.

Assumptions:

- No full-size drawings (bond or mylars) are included. City will contract with reproduction company for production of full-size drawings.

Deliverables:

- Final 11 x 17 drawings: 5 printed copies and electronic copy in PDF format.
- Final specifications and design details (8 1/2 x 11 format): 5 printed copies and electronic copy in PDF format.
- Sealed project plans, specifications, calculations, and other reports.
- AutoCAD files of design drawings and survey data.

Task 5.3 – Contract Advertise and Award

- Attend and facilitate one pre-bid conference.
- Prepare addenda as required by bidder questions.
- Attend bid opening, compile contractor bid results into a matrix for review and evaluation of contractor bids. Verify status of apparent low bidder's contractor license and check performance on several recent projects. Prepare a recommendation of award and transmit to the City.

Task 5.4 – Prepare Conformed Documents

- Prepare Conformed for Construction Documents that incorporate clarifications and changes made by addenda.

City Involvement:

- Identify preferred bidding services company.
- Pay all bid advertising costs directly to the bidding services company.
- Provide location for pre-bid conference.
- Attendance of pre-bid conference by City PM.

Assumptions:

- No hard copies of project documents are required, all documents will be transmitted in electronic format.
- City will receive questions from contractors and forward to JACOBS as needed.
- Up to 2 addenda with up to 3 updated drawings each will be required.
- Addenda will be transmitted to bidding services company for distribution to plan holders.
- Final addenda will be issued a minimum of 5 working days before bid opening.
- Conformed for Construction Documents will include fully executed bid forms, insurance certificates, bid and performance bonds, addenda, and contract for the low bidder.
- Construction contract will be successfully awarded with one advertisement and bid opening.

Deliverables:

- Final Bid Documents drawings (half- and full-size) and Specifications in PDF form will be provided by email or file sharing service.
- Pre-Bid agenda and meeting minutes.
- Addenda as required.
- Letter recommendation of award.
- Conformed for Construction Documents drawings (half- and full-size) and Specifications in PDF form will be provided by email or file sharing service.
- Native files for conformed drawings will be provided in AutoCAD format on DVD. City to indicate what version of AutoCAD is desired at time of delivery.

Task 6. Services During Construction

Task 6.1 – Office Services During Construction

6.1.a Meetings and Site Visits

- Attend and facilitate preconstruction meeting with Project Manager and discipline leads with City Project Manager; including preparation of agenda and meeting minutes.
- Attend regular construction progress meetings.
- Provide periodic environmental monitoring by biologist.

City Involvement:

- Attendance at preconstruction and construction progress meetings.

Assumptions:

- OSDCs are based on the construction period of 9 months.
- One preconstruction meeting and bi-weekly construction coordination meetings for duration of assumed construction period.
- Up to 80 hours will be required for environmental monitoring site visits (could include both periodic biological and periodic archeological monitoring)

Deliverables:

- Preconstruction meeting agenda and minutes.

6.1.b Submittals

- Review all shop drawings, testing plans, samples and submittals for general conformance with the design concept and general compliance with the requirements of the contract for construction.

Assumptions:

- Maximum of two submissions (original and one re-submittal) by Contractor for each shop drawing, sample, or submittal.
- Construction Manager will log and track submittals.
- Up to 85 submittals will be reviewed (total includes re-submittals), each requiring an average of about 5 hours of review and processing time.

6.1.c RFIs

- Review and respond to the Contractor's requests for information (RFI) or clarification of the contract documents. Response will be coordinated with the design team, City and Construction Manager as appropriate.

RFI responses will identify whether response will have a low, medium, high, or no cost impact, and whether there will be a schedule impact. **Assumptions:**

- Up to 70 RFI will be reviewed, each requiring an average of about 3 hours of review and processing time.

6.1.d Product Substitution Requests

- Review technical aspects of the Contractor's requests for substitution (RFSs) of materials, equipment, and specified procedures as well as proposed deviation from the contract requirements.
- Advise the City and Construction Manager as to the acceptability of proposed substitutions.

- Coordinate with City and Construction Manager and provide technical written responses to the Contractor's RFSs.

City Involvement:

- Review RFSs with JACOBS and Construction Manager.

Assumptions:

- Up to 10 RFSs will be reviewed, each requiring an average of about 5 hours of review and processing time.

6.1.e Record Drawings and Specifications

- Record drawings will be prepared based on contractor's field as-built drawings.
- Record drawings will not include revision numbers, clouds, or bold highlights.
- Record specifications will be prepared based on changes from RFI responses, design clarifications, or change orders.

City Involvement:

- Review and comment on draft record drawing and specification deliverable.

Assumptions:

- A single marked up set of drawings and specifications will be provided and prepared using the color code outlined in the contract documents.
- Draft Record Drawings and specifications will be submitted to City for review within 90 days after project final acceptance.
- Final Record Drawings and specifications will be submitted to City within 30 days of receipt of City's Draft Record Drawing review comments.

Deliverables:

- Draft Record Drawings (half-size) and Specifications in PDF form will be provided by email or file sharing service.
- Final Record Drawings (half- and full-size) in PDF and AutoCAD form and Specifications in PDF and MS Word form will be provided by email or file sharing service.

Task 7. Testing & Startup

Task 7.1 – Diffuser Performance Testing

Following the installation of the new outfall diffuser in the Feather River, an outfall dilution performance study will be planned and performed to measure the diffuser dilution performance, calibrate and validate dilution modeling, and document these field and modeling results in a report to the City and for submittal to the Central Valley RWQCB.

The specific objectives of the Outfall Dilution Performance Study will include:

1. Take site-specific field measurements of the outfall diffuser site under low river flow, and develop river flow and stage statistics for critical discharge conditions (seasonal low-flow conditions),
2. Field-measured dilutions and ambient currents to apply in dilution modeling for accurate modeling results for critical river flow conditions and effluent flows,

3. Define dilution credits for the new outfall diffuser under critical river and effluent flow conditions, as defined in the State Implementation Plan (SIP),
4. Determine mixing zone boundary distances based on field and modeling results, and
5. Develop summaries of study findings in a detailed study report

To meet these project objectives, the outfall mixing zone and dilution study will be performed to provide accurate and defensible field measurements of the outfall dilution performance and ambient river conditions in the mixing zone region, to provide reliable dilution modeling, to document the biological and human uses near the outfalls, and to document the selection of dilution ratios and mixing zone dimensions for the outfall.

A Study Plan will be developed to define the field measurements, quality assurance (QA) and quality control (QC) measures and requirements for the field studies and dilution modeling, and to align the study activities with the SIP requirements. This field and modeling study will be implemented by experienced personnel. This study will be conducted in accordance with the State of California SIP, and the specific requirements in the *Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins*. It is assumed that the dilution credits and mixing zones developed through this performance study will be applied by the RWQCB in developing effluent limitations for pollutants regulated through water quality criteria and the California Toxics Rule (CTR) criteria. The study plan will be prepared to allow submittal to the RWQCB following completion of the outfall construction, so that approval is secured and the field tracer study can be conducted in September or October under low river flow conditions. Jacobs will conduct a field performance test of the new Yuba City WWTF outfall diffuser during low river flow conditions in either September or October following construction completion. The field study will be conducted during a five-day period using a team experienced with tracer studies, and following the Study Plan. The field study will include simultaneous measurements of ambient current velocities, water depth, and tracer dye during a period that corresponds with low river stage. Dye will be injected into the WWTF effluent and measured in the river during an 8-10-hour period. The focal points for in-stream dye measurements will be distances of 30, 50, 100, 200, 300, and 500 feet downstream from the diffuser.

Jacobs will provide all instruments for the study including current meters, SeaBird SBE-19 water quality instruments, fluorometers, dye injection and sample pumps, and Rhodamine WT tracer. A survey vessel with DGPS will be contracted to provide the work vessel for instrument installations, tracer sampling, and site-specific field measurements. The field study will include: setup and calibrate the tracer injection, fluorometer calibration and testing, installation and retrieval of instruments in the river, water column measurements of tracer, temperature, and conductivity during daylight hours, data download from instruments, and post-study instrument calibrations. The tracer study field data will be analyzed and summarized, and these data will be used for the dilution modeling and in the study report development.

Modeling will be used to predict wastewater dilutions and temperatures for the field-measured conditions (river flow during tracer study) and for the seasonal critical river flow conditions defined in the SIP. Dilutions and plume behavior will be predicted using the selected model (Visual Plumes or CORMIX2). Dilution modeling will be developed to represent the same conditions as the tracer study and seasonal critical river flow conditions defined in the SIP. The comparison of model-predicted versus field-measured dilutions will also be summarized in the report.

A draft and final diffuser performance study report will be prepared based on the results of the field tracer study, dilution modeling, and effluent and receiving water data. The report will summarize the results of the field data collections, diffuser dilution performance measurements, dilution modeling, and an assessment of the attainment of water quality standards. Water column measurements of tracer concentrations, temperatures, and current speeds will be summarized in graphical and tabular formats.

The dilution modeling will be summarized in the report and model input and output will be in report appendices. The existing effluent chemical concentration data and available background data will be used to calculate chemical concentrations in the receiving water at the edge of the defined mixing zone boundaries (reasonable potential analyses). The City will provide the effluent chemistry data to Jacobs.

The draft and final report will be prepared for review by the City. A meeting will be held with the City to review the results presented in the draft report and discuss comments. Jacobs will incorporate client comments and a final report will be provided for submittal to the RWQCB.

- In the event that the field-measured dilutions are greater than 10 percent below the minimum design model-predicted dilutions for 2025 under 7Q10 low river flow conditions that were developed through dilution modeling and presented in the predesign report and approved by the Regional Board, or more than 10 percent below model-predicted dilutions for the CVRWQCB-approved river flow dilution test conditions (in the event 7Q10 flows are not achieved during testing period), then JACOBS will provide modification recommendations such as installation of spare risers with ports onto blind flanges on the outfall diffuser or alternative measures/recommendations to achieve the expected dilution. This response will be included as a Technical Memorandum and design documents to bid the project (if needed), professional engineering services/support during recommended modifications and re-testing at no additional cost to the City. The City will pay for all construction management, construction, and City costs to implement the recommended modifications in the Technical Memorandum/Design Documents for such modifications.
- Task lead for JACOBS will attend up to six teleconference meetings (1-hour meetings) to review the development of the Study Plan with the City, field study preparations, preliminary results of the field study, modeling results, and to review City comments on the Draft Diffuser Performance Study Report.

City Involvement:

- Provide WWTF support during the field study, including time for study logistics planning, safety review meetings, on-site access to dye injection into effluent discharge, space in the WWTF laboratory for field instrument testing and calibrations, space in the WWTF for equipment storage and working space for field team during the field study week.
- Provide reviews and input during project review meetings and to the draft deliverables listed under this task.
- Attend teleconference meetings (1-hour meetings) to review the development of the Study Plan, pre-study logistics planning, and review the draft performance study report. Skype connections will be used to facilitate information sharing during teleconference meetings.
- Attend two meetings with JACOBS at the CVRWQCB Sacramento office, one to discuss the Draft Study Plan and one to Review the Final Diffuser Performance Study Report.

Assumptions:

- The City's WWTF staff will provide support during the field study including time for logistics planning, safety review meetings, on-site access to dye injection into effluent discharge, space in the WWTF laboratory for field instrument testing and calibrations, space in the WWTF for equipment storage and working space for field team during the field study week.
- Prior to mobilizing personnel and equipment for the field study week, river flow and stage forecasts will be evaluated to decide if adequate and safe river conditions are forecast for the work period. Seasonal river flows will not restrict boat access and data acquisition to the point of damage or imminent danger to personnel and equipment.

- All deliverables will be provided to City in an electronic file format (pdf) and limited hard copies will be provided.

Deliverables:

- Draft and final Study Plan for the Outfall Diffuser Performance Study
- Draft and final Outfall Diffuser Performance Study Report

Task 7.2 – O & M Staff Training

- Prepare syllabus outline and complete training syllabus for review and comment by City. Prepare aids as needed for training.
- Provide in person training for City O&M staff. Training will be provided on overall project description, operation and maintenance of project components and new equipment and appurtenances. Training will include description of system operation and operational considerations.

City Involvement:

- Review and comment/approve training syllabus outline and complete training syllabus.
- Attendance at a minimum of one training session by key City staff/Plant Operators (staff and operators to be identified by City).
- Provide access to new facilities and any required ancillary systems required for operation of the project.

Assumptions:

- Up to 3 trainings for eight hours each will be required to accommodate City staff schedules.
- JACOBS will provide one trainer for each training session.
- Except for effluent pump station pumps, training will not be provided for any existing treatment plant process.
- Training will not include actual operation of project facilities (unless in use as part of normal Plant operations), rather it will focus on how to operate the system and operational considerations based on Plant effluent flow, river conditions, and blending requirements.

Deliverables:

- Syllabus outline, complete training syllabus and training aids.

Task 8. Construction Management

Task 8.1 – Document Management

8.1.a Construction Progress Meetings

- Conduct regular construction progress meetings with the Contractor, City, and others (as necessary) to review safety, RFI status, submittal status, changes, completed and ongoing activities, planned work schedules, and to discuss key issues.
- Conduct other job meetings as required to coordinate construction activities with other agencies.
- Record and prepare minutes of all project meetings, and distribute the minutes to all parties within two business days following meeting.

8.1.b Submittals

- Develop list of required and anticipated Submittals.
- Receive, process, track, and review Contractor's submittals on materials, equipment, and methods. Review of submittals shall be limited to completeness review – technical review will be done by the design engineer.
- Develop and maintain an electronic control system for processing all submittals to indicate the date received, review status, and date returned to the Contractor.

8.1.c Substitution Requests

- Receive, process, track, and review Contractor's substitution requests. Review of substitution requests shall be limited to completeness review – technical review of substitution requests will be done by the design engineer.

8.1.d Requests for Information (RFI's)

- Review and respond to RFI's from the Contractor within the time frame allowed by the Contract Documents. Review of RFI's shall be limited to completeness review – technical review of RFI's will be done by the design engineer.
- Develop and maintain an electronic log to track all RFI's, indicating subject of request, date of request, originator of request, person responsible for response, and date of response.
- Facilitate and expedite responses to requests for clarification to the maximum extent possible, confirming that the appropriate party is resolving outstanding issues.

8.1.e Project Files

- Maintain at the project site a current set of project correspondence, job files, change order documentation, approved shop drawings, contract documents, erosion control inspection reports, meeting minutes, and other records required by the specifications.
- Files and records may be hard copy or electronic.
- Develop and maintain an excel-based document-tracking/filing system to facilitate retrieval and archival needs. A web-based software system may be considered by the City prior to construction. Consultant will estimate cost of web-based software system and City may funded by contract amendment.
- Transmit all files to the City upon completion of the project.

8.1.f Monthly Reports

- Issue monthly reports to keep the City apprised of the project status and focus attention on critical issues requiring action.
- Monthly reports will include the following information:
  - Executive summary
  - Description of major work performed
  - Summary of outstanding issues
  - Selected project photographs
  - Schedule status, including potential time extensions
  - Construction cost status, including original contract amount, current contract amount, and forecast at completion

- Pending and executed change order summary
- Quality issues, including list of deficiencies
- Pending or potential claims report
- Summary of Engineer's budget status.

8.1.g Project Closeout

- Transmit all files to the City upon completion of the project.
- Provide copies of warranties to the City.
- Establish warranty tracking procedures.
- Provide copy of final payment with supporting documentation.

City Involvement:

- Review and comment on select submittals
- Review and comment on select RFI's
- Review and comment on substitution requests

Assumptions:

- The cost proposal is based on processing 85 submittals at an average of 2.5 hours per submittal, and 70 RFIs at an average of 2.5 hours per RFI.
- Submittals will be submitted electronically, in PDF format.

Deliverables:

- Construction progress meeting minutes
- Submittal log
- Submittal responses
- RFI log
- Substitution log
- RFI responses
- Project files
- Monthly reports
- Final site inspection report
- Final punch list
- One set of contractor as-built drawings

Task 8.2 – Construction Contract Administration

8.2.a Project Schedule

- Review the Contractor's baseline computer-based, cost-loaded, critical path method (CPM) construction schedule to ensure that the activities are comprehensive, that workflow is logical, that the schedule is not front-end loaded, and that the costs for activities are reasonably distributed.
- Monitor the Contractor's actual work progress as compared to schedule activities by reviewing contractor monthly schedule submittals and providing comments. Require contractor to submit monthly project as-built schedule.
- Conduct monthly schedule update meetings with the Contractor to review progress.
- The cost-loaded schedule will be the basis of progress payments to the Contractor.

8.2.b Progress Payments

- Review monthly applications for payment with the Contractor, noting particularly the relationship of the payment requested to the schedule of values based on the cost loaded CPM schedule.
- Confirm that the Contractor submits required certified payroll information.
- Forward reviewed payment application to the City with recommendation for payment.
- Maintain accurate project cost records, including, monthly payments, change orders, etc. and the effect on the established project budget.

8.2.c Construction Change Orders

- Review all proposed changes to the work requested by the Contractor to ascertain the need and to check for cost-effectiveness.
- Prepare Requests for Proposal (RFP's) for Owner or Engineer-generated requests for changes.
- Lead change order negotiations with the Contractor to evaluate the requested cost and/or time extensions.
- Make recommendations to the Owner regarding acceptance of change orders.
- Maintain a computerized monitoring log to track the status of proposed changes, review status and evaluate for schedule impact or potential claim.

City Involvement:

- Process contractor progress payments
- Review and approve contract change orders

Assumptions:

- Construction Contract Administration assumes a 9-month construction period with on-site construction contract administration for 4 months (16 weeks) full-time and 4.5 months (18 weeks) half-time, 8 hour days, with no overtime.

Deliverables:

- Contractor progress payment recommendation
- Contract change orders

Task 8.3 – Construction Field Inspections

8.3.a Quality Assurance

- Provide qualified inspection staff to observe materials, equipment, work in progress, and completed work to ascertain compliance with the plans and specifications, subsequent contract modifications, and approved submittals.
- Notify the Contractor in writing of any observed noncompliance or variances from the contract requirements.
- Prepare daily field reports of the status of the work, daily activities, manpower, equipment (including idle equipment), weather, and other pertinent observations.
- Make daily reports available to the City for review/reference at all times and submit all reports with other project records at the completion of the project.
- Maintain a continuous log of deviations throughout the project to reflect Contract change orders and field changes.

- Maintain a record of construction progress through photographic documentation. Digital Photos will be organized to allow ease of future search for photos of interest.
- Accompany visitors representing public or other agencies and record the visits in the daily log.
- Observe the Contractor's documentation of erosion control efforts and perform and document inspections of erosion control devices on a weekly basis, or as needed following rainfall events.
- Perform periodic quality assurance surveys

8.3.b Material Testing

- Provide quality assurance field sampling and testing of soils, aggregate, and concrete, along with associated laboratory work. Anticipated testing includes:
  - Soils compaction tests
  - Moisture density curves (10 total)
  - Concrete strength (6 sets of test cylinders for the bifurcation valve vault)
  - CLSM testing (1 set of test cylinders)
- Coordinate with the contractor to schedule inspectors to be onsite when testing is required.
- This activity includes an allowance of $26,000 for owner-provided weld inspection testing in case the outfall pipeline is decided to be constructed of welded steel. This allowance covers a pipeline length up to 2.5 miles in length.
- This activity also includes an allowance of $10,000 for specialty inspections as required by the California Building Code, actual pipe material selected for construction, and as requested by the City.

8.3.c Dive Inspection

- Perform New Construction Inspection(s) in accordance with the American Society of Civil Engineer's Waterfront Facilities Inspection and Assessment Guidelines to document that the underwater pipeline and diffusers meet the requirements of the construction contract documents as well as:
  - Verify quantities installed for Contractor payment
  - Respond to field questions and resolve field problems
  - Develop a list of deficiencies for Contractor to correct
- Jacobs Engineer Dive Team will be led by Professional Engineer and certified diver.
- Prepare a diving inspection plan based on discussions with the City and with the marine construction subcontractor.
- As needed and based on the diving inspection plan, perform milestone inspections of underwater trench and bedding, pipe joints, and pipe joint assembly, pipe backfill, and pipe coating and lining systems.
- Provide underwater still photographs of pipe installation details where possible using a clear water box. Much of the diving is anticipated in conditions with near zero visibility. Where of value, provide underwater video of the project.
- Diving operations shall be governed by applicable state, federal, and industry standards, and shall conform to the "Consensus Standards for Commercial Diving Operations" of the Association of Diving Contractors International (ADCI).
- Diving inspections shall be coordinated with the outfall project marine contractor. Diving operations shall be conducted from the outfall project marine subcontractor's vessel or work trestle, unless specifically directed otherwise by the City or unless shore deployment is adequate.

City Involvement:

- City to review inspection reports and provide comments in a timely manner to avoid construction contractor delays.

Assumptions:

- Construction Quality Assurance assumes a 9-month construction period with on-site construction quality assurance for 60 days, 8 hours per day, with no overtime.
- Construction contractor will be responsible for continuous Quality Control inspections and Quality Control materials testing.
- Diving inspectors to work from Construction Contractor's barge. Includes two dive days over a two-week period for a three-person dive team. Standby charges will apply if scheduled dive inspections are delayed or cannot occur.
- The City acknowledges that ultimate responsibility for any deficiencies in materials or completed work, and for compliance with plans and specifications and approved submittals, shall be attributable solely to the Contractor, notwithstanding Construction Manager's observations and inspections hereunder.

Deliverables:

- Daily field reports
- Material test reports
- Construction photographs
- Diving inspection reports including still photography of underwater conditions.

Task 9. Operations and Maintenance Manual

- Develop a facility Operation and Maintenance (O&M) manual describing the operation of the Project facilities and systems and where appropriate, reference will be made to the manufacturer's detailed O&M manual. It is anticipated that the O&M Manual will include the following:
  - Applicable record drawings that illustrate concepts as needed.
  - Photos of equipment and human-machine interface (HMI) screens to illustrate concepts as needed.
  - Operational criteria based on varying plant flows and Feather River conditions (based on diffuser performance testing results).
  - Equipment/Appurtenance preventive maintenance inspection forms and schedule.

City Involvement:

- Review and comment on draft O&M Manual.

Assumptions:

- Outfall Diffuser Performance Testing results will be available for incorporation into the O&M manual.
- O&M staff training is included in Task 7 and is not included in this task.
- The O&M manual will address the outfall pipeline, bifurcation valve vault, and diffuser. O&M elements for modifications to WWTF pumps, flow measurement, or piping are not included in this task.

Deliverables:

- Draft O&M Manual in PDF form will be provided by email, and 3 hard copies.
- Final O&M Manual in PDF form will be provided by email, and 3 hard copies.

Task 10. Project Management

JACOBS and MHM will complete project management tasks as outlined below. The budget assumes that overall project scope is as defined in the preceding Tasks (excluding the Contingency task).

Task 10.1 – External Project Meetings

JACOBS will attend the following project meetings with City staff:

- Project Chartering Meeting at the WWTP including up to six JACOBS team members and MHM. JACOBS will prepare meeting agenda and meeting minutes.
- Biweekly Progress Meetings at the WWTP including two JACOBS team members. JACOBS will prepare meeting agendas and meeting minutes.
- Special Coordination Meetings at the WWTP as required by project needs

City Involvement:

- Review agendas and minutes from project progress meetings and alert project manager of any questions or corrections.

Assumptions:

- Up to 58 biweekly Progress Meetings between August 2018 and December 2020 during Predesign, Design, and Environmental Services and Permitting
- Subconsultants will attend bi-weekly Progress Meetings as necessary
- Up to 11 Special Coordination Meetings including local staff and up to 6 person-trips for remote team members
- No biweekly Progress Meetings during Bid Services or Testing & Startup
- Meetings for Construction are included under Services During Construction and Construction Management

Deliverables:

- Chartering Meeting agenda and meeting minutes
- Progress Meeting agendas and meeting minutes

Task 10.2 – Develop and Maintain Project Management Tools

JACOBS will prepare and maintain the following project management tools:

- Project Execution Plan (PXP)
- Quality Management Plan (QMP)
- Risk Register
- Work Plans
- Decision Log

Task 10.3 – Project Controls and Invoicing

JACOBS project controls staff will prepare regular internal cost reports for review by the JACOBS Project Manager. JACOBS will also prepare monthly invoices (including subconsultant invoices) and a Project Status Report including progress report narrative, scope change summary, and schedule and budget

status. Monthly invoices Project Status Reports will be submitted to the City Project Manager for review and approval.

City Involvement:

- Review and approve monthly invoice

Assumptions:

- Assumes 60 months of project cost reports, monthly invoices, and progress reports
- Budget status burn charts are not included

Deliverables:

- Monthly invoices and Project Status Reports

Task 10.4 – Project Team Coordination

JACOBS will conduct the following internal team coordination activities:

- Project Kickoff Meeting
- Regular project team coordination meetings

Task 10.5 – Health and Safety

JACOBS will conduct internal Health and Safety (H&S) procedures to manage the safety of our staff, and oversee the safety of subconsultants. Our subconsultants will be required to prepare their own H&S Plan for all field activities, and we will work with our subconsultants to monitor compliance with their own H&S Plan. Health and safety activities will include:

- Preparation and management of Field Safety Instructions for design and construction phases
- Quarterly construction phase H&S management audits for 2 years of construction
- Monitor JACOBS staff and subconsultant compliance with the Field Safety Instructions, and subconsultant compliance with their own H&S Plan.

Deliverables:

- Copies of the JACOBS Field Safety Instructions (both design and construction phases) are available for review by the City upon request

Task 10.6 – Subcontract Management

JACOBS will manage the performance of our subconsultants to comply with the scope of work, schedule, and budget. This task includes setting up subconsultant contracts and required pre-procurement reviews, reviewing monthly subconsultant invoices and progress reports, maintaining annual insurance and safety documents, and monitoring and tracking subconsultant payments.

This task also includes project management activities for MHM.

Task 10.7 – Project Management for Supplemental Services

Provide management for scope, schedule, and budget associate with work authorized by the City under the Supplemental Services task, specifically Tasks 12.1 through 12.4. Maintain coordination with City, internal project team, subconsultants, and outside agencies. Maintain Decision Log and prepare meeting agendas and meeting minutes as needed. Prepare schedule update and maintain schedule during work progress.

City Involvement:

- City will authorize funding for this task when funds are authorized from the Contingency task

Task 11. California SRF Loan Application Support

JACOBS will provide engineering services to support the City's application to apply for grant/loan/bond funding for the Outfall and Diffuser Project. This task consists of a $50,000 allowance for general SRF support, not aligned to a particular SRF package. Support activities will be as requested by the City, with no scoped deliverables. The consultant will not be required to spend more than the $50,000 allowance to support the City in this task without an amendment to the contract.

City Involvement:

- Provide direction regarding requested engineering services

Assumptions:

- Schedule is estimated and is controlled by the City. Schedule for activities requested by the City will be agreed upon mutually by the City and JACOBS.

Deliverables:

- No scoped deliverables. The consultant will support the City with SRF application related activities on a time and materials basis up to the contracted allowance.

Task 12. Supplemental Services

12.1 – Bathymetric Surveys in 2019, 2020 and 2021

- Conduct bathymetry survey of the Feather River region below Shanghai Falls (RM 24.5) to Boyd's Landing (RM 22.6) using a sweep-system (multiple single-beam) sonar to record detailed river bed elevation data. JACOBS will engage a specialty hydrographic surveyor to perform this bathymetry survey in the summer or fall of 2019, 2020 and 2021, as requested by the City. The vessel used for this survey will be provided by the hydrographic surveyor and the survey crew will include an ACSM certified hydrographer.
- Horizontal positions for navigation and data collection will be determined by using a Trimble base and rover system, and Hypack navigation software. The horizontal datum used will be NAD83, California State Plane Zone 2 (U.S. Survey Feet). The vertical datum used will be NAVD88 (U.S. Survey Feet).
- MHM will identify and validate benchmarks for locating RTK Base Station for use during bathymetry surveys and other data collections on the river. If alternative survey control sites are required then they will be established by MHM and adjusted and calibrated to the most current documentation of NAD83 and NAVD88 (National Geodetic Survey).

City Involvement:

- Facilitate access to secure survey benchmarks to allow for locating Trimble base RTK station on tripod during bathymetric survey and field data collection days.

Assumptions:

- Field services will be conducted in accordance with JACOBS's Field Safety Instructions (FSI) for this project. Vessel safety and operational safety will be the responsibility of the hydrographic surveyor. For safety reasons, all field activities on the river will be limited to daylight hours. These field measurements are assumed to require four to six consecutive field days on the Feather River.
- Prior to mobilizing personnel and equipment for the week of survey work, river flow and stage forecasts will be evaluated to decide if adequate and safe river conditions are forecast for the work

period. Seasonal river flows will not restrict boat access and data acquisition to the point of damage or imminent danger to personnel and equipment.

- All deliverables will be provided to City in an electronic file format (pdf) and limited hard copies can be provided on request.

Deliverables:

- A concise bathymetric survey report will be produced and report charts will be provided. The report charts will include depth contours at 1-foot intervals, color TIN (Triangulated Irregular Networks), and track-lines. Report charts will be produced in the horizontal and vertical datum defined above. This report will describe the control used for the survey, data acquisition methodology, calibrations, and data processing procedures. Report deliverables will include an ASCII file of the XYZ data, AutoCAD and Civil 3D DWG files.

12.2 – Environmental Impact Report

This scope of work is based on CEQA compliance using an Initial Study/Mitigated Negative Declaration. This implies that environmental impacts will be less than significant with the inclusion of mitigation measures, such that a full Environmental Impact Report (EIR) will not be required. This assumption is based on study of the potential impacts of concern and the reasonable (although early) conclusion that no impacts will remain significant and unmitigable. However, there is some possibility that the analysis will reveal impacts that cannot be mitigated to a less than significant level, and thus an EIR will need to be prepared. The following items will be required to "convert" the Initial Study into an EIR, and replace the Mitigated Negative Declaration with the appropriate decision documents for an EIR.

- Prepare a Notice of Preparation and conduct reasonable scoping activities well in advance of releasing the Draft EIR for agency and public review
- Conduct additional analysis and write additional text to reflect topics not considered in an Initial Study, including:
  - Statement of project objectives
  - Environmental and regulatory setting
  - Development and evaluation of a reasonable range of alternatives to the project, and a No Project alternative
  - Cumulative and growth-inducing impacts
- Hold a public meeting on the Draft EIR, including sufficient advertising to solicit appropriate interest
- Formally respond to comments (from agency and public review) and prepare a separate Final EIR
- Prepare Findings of Fact and Statement of Overriding Considerations

City Involvement:

- Assist in coordinating public meetings, which would normally occur during the scoping and Draft EIR stages, by securing meeting rooms
- Provide internal coordination to advance the CEQA process, such as preparing staff reports
- Coordinate with the Planning Division, as needed, to follow normal City processes for CEQA review

Assumptions:

- None

Deliverables:

- Notice of Preparation
- Administrative Draft EIR
- Screencheck Draft EIR
- Public Review Draft EIR
- Mitigation Monitoring and Reporting Plan
- Notice of Availability
- Administrative Final EIR
- Screencheck Final EIR
- Final EIR (for City Council adoption)
- Findings of Fact/Statement of Overriding Considerations
- Notice of Determination

12.3 – Vacuum-Assist Siphon Predesign, Design, and other Services

12.3.a (i) 30% Design Development, Predesign Report, Schedule, and Cost Estimate
The scope of work outlined under Task 1.10 will be supplemented as follows:

- Vacuum assisted siphon system incorporated in applicable plan and profile, electrical, and I&C and remote telemetry drawings and vacuum assist system specific civil site plan, structural, mechanical, electrical plans, sections and details.
- Incorporate vacuum assisted siphon system in Class 3 construction cost estimate (-20% to +30%)
- Incorporation of vacuum assisted siphon into the Draft Predesign Report.

City Involvement:

- As outline under Task 1.10.

Assumptions:

- Development of civil, structural, and mechanical design for vacuum assisted siphon system.
- 30% Design development of civil, structural, electrical, I&C and mechanical design of the vacuum assisted siphon based on City selected outfall location and pipeline alignment alternative.
- The Draft Predesign Report, included under Task 1.10 will incorporate the vacuum assisted siphon design.
- All deliverables will be provided to the City in an electronic file format and limited hard copies can be provided to the City on request.

Deliverables:

- As outlined under Task 1.10

12.3.a (ii) 60% Design Plans and Specifications
The scope of work outlined under Task 3.1 will be supplemented as follows:

- Develop a 60% Design of the vacuum assisted siphon system. The 60% submittal will incorporate the vacuum assisted siphon into the plan and profile, electrical, and I&C and remote telemetry drawings and the addition of vacuum assist system specific civil site plan, structural, mechanical (including condensate drainage disposal), electrical plans, sections and details. The vacuum assisted siphon system will be incorporated into the Specifications
- 60% Vacuum Assisted Siphon Design Submittal will incorporate the revised or additional drawings to the drawings outlined in Task 3.1 and as described in the Preliminary Drawing List included in **Appendix A**:

  - 1 Plan and Profile sheet (updated)
  - 1 Civil Sheet (new Vacuum System Building site plan)
  - 2 Structural/Mechanical Sheets (new building and mechanical plans and sections)
  - 2 Electrical sheets (updated single line and 1 new building electrical plan)
  - 1 I&C Sheets (updated)
  - 1 Standard Details sheet (new details)
  - 1 Contingency sheets
- Control Narrative for vacuum assisted siphon system
- Incorporate vacuum assisted siphon system into technical workshops.
- Incorporate vacuum assisted siphon system into Quality Management QA and QC.
- Incorporate vacuum assisted siphon system into Class 2 Cost Estimate.

City Involvement:

- As outlined in Task 3.1.

Assumptions:

- As outlined in Task 3.1.

Deliverables:

- As outlined in Task 3.1.

12.3.a (iii) 90% Design Plans and Specifications
The scope of work outlined under Task 3.2 will be supplemented as follows:

- Continued development of vacuum assisted siphon system into the 90% Design Submittal including: plan and profile electrical, I&C and remote telemetry, civil site plan, structural, mechanical (including condensate drainage disposal), electrical plans, sections and details, and technical specifications.
- Loop specifications for the vacuum assisted siphon system will be included in the technical specifications based on the Control Narrative prepared during the 60% design.
- Incorporate vacuum assisted siphon system into technical workshops.
- Incorporate vacuum assisted siphon system into Quality Management QA and QC.
- Incorporate vacuum assisted siphon system into Class 1 Cost Estimate.
- Complete PG&E power service request

City Involvement:

- As outlined in Task 3.2.

Assumptions

- 90% Design submittal assumes preparation of 6 additional vacuum assisted siphon sheets in the drawing package.

Deliverables

- As outlined in Task 3.2.

12.3.a (iv) 100% Design Plans and Specifications
The scope of work outlined under Task 3.3 will be supplemented as follows:

- Prepare 100% vacuum assisted siphon system Design Drawings including: plan and profile electrical, I&C and remote telemetry, civil site plan, structural, mechanical (including condensate drainage disposal), electrical plans, sections and details, and technical specifications.
- Incorporate vacuum assisted siphon system into Quality Management QA and QC.
- Incorporate vacuum assisted siphon system into final revised construction cost estimate to reflect Engineer's Estimate of final drawings and to include final modifications to design and City's 100% comments on previous cost estimate.

City Involvement:

- As outlined in Task 3.3.

Assumptions:

- 100% Design submittal assumes preparation of 6 additional vacuum assisted siphon sheets in the drawing package.
- Clarifications and changes to the design submittal documents will be provided as required to address plan review comments from the City.
- Design submittal documents will incorporate and consolidate all changes made during the permit review.
- All deliverables will be provided in PDF file format and 5 hard copies will be provided to the City

Deliverables:

- As outlined in Task 3.3.

12.3.b – Services During Construction – Vacuum Assisted Siphon
The scope of work outlined under Task 6 will be supplemented as follows:

- Meetings and Site Visits – two additional site visits by design engineer for observation of siphon system construction.
- Submittals – up to 5 additional submittals for equipment associated with the siphon system.
- RFIs – up to 5 additional RFIs associated to the construction of the siphon system.

City Involvement:

- As outlined under Task 6.

Assumptions:

- As outlined under Task 6.

Deliverables:

- As outlined under Task 6.

12.3.c – Vacuum System Testing
Following construction of the new outfall pipeline and vacuum assisted siphon system the components of the system will be tested as part of the overall project start-up and testing. The vacuum system design engineer will be on site to confirm proper operation of the system.

City Involvement:

- Provide WWTF support during testing.
- Provide site access and facilitate testing.

Assumptions:

- Proper installation and operation of specific and individual components of the vacuum system will be completed and confirmed as part of the construction contract by the individual responsible manufacturers or manufacturers' representatives. This will be complete prior to design engineer's system testing.
- The City will be able to facilitate testing of the vacuum system by operating the effluent outfall system in such a manner that allows testing to the design engineer's satisfaction.
- Maximum of two days of testing and time on site are required for design engineer.

Deliverables:

- System operational test report.

12.3.d – O & M Staff Training – Vacuum Assisted Siphon

Incorporate vacuum assisted siphon system into O&M Staff Training outlined in Task 7.2.

City Involvement:

- As outlined under Task 7.2.

Assumptions:

- Up to 2 trainings for four hours each will be required to accommodate City staff schedules.
- JACOBS will provide one trainer for each training session.
- Training will not be provided for any existing treatment plant process.
- Training will not include actual operation of the vacuum assisted siphon system (unless in use as part of normal pipeline operations), rather it will focus on how to operate the system and operational considerations based on Plant effluent flow, and river conditions.

Deliverables:

- Syllabus outline, complete training syllabus and training aids.

12.3.e – Operation and Maintenance Manuals – Vacuum Assisted Siphon

Incorporate vacuum assisted siphon system into Operation and Maintenance manuals as outlined under Task 9.

City Involvement:

- As outlined under Task 9.

Assumptions:

- As outlined under Task 9.

Deliverables:

- As outlined under Task 9.

12.3.f – Project Management – Vacuum Assisted Siphon

Included under Task 10.7.

12.4 – Test Pits for Archaeological Investigation

As an optional task to this scope of work, JACOBS proposes the completion of initial archaeological testing along the pipeline alignment within the vicinity of the levees. The initial archaeological testing

will be completed over a 1-week period using mechanical drilling/coring at 50-meter sampling intervals along the levee. Two archaeologists will be present during the testing, including a geoarchaeologist who meets the Secretary of Interior qualifications. The archaeological testing will use available information from the geotechnical analysis to augment information collected as part of this optional task.

Prior to competing the initial archaeological testing, background research through primary and secondary sources will be completed on the existing soils and geology of the area, as well as to assess the likelihood of the area's past uses and association with Native American tribes, to determine the sensitivity of the area to contain buried cultural resources. Additional primary and secondary source research will be completed through repositories and collections available with Native American tribes, the National Archives in San Bruno, and local/state agencies and historical societies.

A Work Plan will be prepared that describes the known sensitivity of the area, records search results (to be obtained under the primary scope of work), information obtained from interaction and research with Native Americans, a research design, and the field methods for the initial archaeological testing. The results of the initial archaeological testing will be included in a Technical Memorandum and provided to the City of Yuba City.

Deliverables

- Draft and Final Work Plan
- Draft and Final Technical Memorandum

Assumptions

- Up to three additional meetings with Native American individuals and tribes may be needed to complete this additional task.
- Native American monitoring of the initial archaeological testing by the United Auburn Indian Community and the Enterprise Rancheria may be requested. The cost for any Native Americans monitor is not included in this scope of work.
- It is assumed that no more than two small cultural resources (less than 2 meters in size) will be discovered during the initial archaeological testing. A separate scope and cost will be prepared for any supplemental assessment that may be required following their identification.

12.5 – WWTF Effluent Pump Station, Flow Metering and Yard Piping Modifications

As an optional task to this scope of work and upon authorization from The City, JACOBS will complete WWTF Effluent Pump Station, Flow Metering, and Yard Piping modifications design including 30%, 60%, 90%, 100% and Bid Documents. The design will include additional drawings and specifications required for design development and contractor bidding.

Additional services associated with the WWTF modifications include additional services during construction, construction management and inspection, and an expanded O&M Manual.

Deliverables

- Predesign report will incorporate WWTF Modifications.
- Up to 6 additional drawings – 2 Civil, 2 Structural/Mechanical, and 2 Electrical.

Assumptions

- The City will provide authorization before any work on this task begins.
- Authorization from City for this task will be provided prior to task beginning, otherwise overall project schedule may be impacted.
- Up to 10 additional RFIs will be submitted and reviewed.

- Construction Contract Administration assumes an additional 2 weeks of half-time on-site construction contract administration, 4 hour days, with no overtime.
- Construction Quality Assurance assumes an additional 20 days of on-site construction quality assurance for 8 hours per day, with no overtime.
- Construction Material Testing includes 6 additional concrete test cylinders for a new flowmeter vault.

Appendix A
Preliminary Drawing List

Appendix A – Preliminary Drawing List

Sheet Number	Drawing Number	Description
General		
1	G-1	Cover Sheet, Vicinity and Location Maps
2	G-2	Sheet List
3	G-3	General Notes
4	G-4	Abbreviations
5	G-5	Civil Legend and Notes
6	G-6	General Structural Notes
7	G-7	Mechanical Legend
8	G-8	Electrical Legends and Abbreviations
9	G-9	Instrumentation Legend
10	G-10	Key Plan and Survey Control
11	G-11	Hydraulic Profile
12	G-12	Construction Access
Plan and Profile		
13	PP-1	Plan and Profile STA 10+00 To 20+00
14	PP-2	Plan and Profile STA 20+00 To 30+00
15	PP-3	Plan and Profile STA 30+00 To 40+00
16	PP-4	Plan and Profile STA 40+00 To 50+00
17	PP-5	Plan and Profile STA 50+00 To 60+00
18	PP-6	Plan and Profile STA 60+00 To 70+00
19	PP-7	Plan and Profile STA 70+00 To 80+00
20	PP-8	Plan and Profile STA 80+00 To 90+00
Civil		
21	C-1	Bifurcation Vault Site Plan and Details
22	C-2	Feather River Site Plan and Restoration Plan
23	C-3	Pipeline Cross Sections 1 Of 2
24	C-4	Pipeline Cross Sections 2 Of 2
25	C-5	Levee Crossing Plan
26	C-6	Levee Crossing Section
27	C-7	Levee Crossing Details - Pipe Backfill
28	C-8	Levee Crossing Details - Pipe Connections
29	C-9	Levee Crossing Details - Valve Vault
30	C-10	Levee Crossing Details - Access Cover
31	C-11	Levee Crossing Details - Miscellaneous 1

Sheet Number	Drawing Number	Description
32	C-12	Levee Crossing Details - Miscellaneous 2
Structural/Mechanical		
33	SM-1	Bifurcation Vault Plan
34	SM-2	Bifurcation Vault Sections
35	SM-3	Feather River Diffuser Plan and Sections
36	SM-4	Feather River Diffuser Details 1 Of 2
37	SM-5	Feather River Diffuser Details 2 Of 2
Electrical		
38	E-1	Bifurcation Vault Electrical Floor Plan
39	E-2	Bifurcation Vault One-Line Diagram, Panel Board Schedule, and Conduit/Conductor Schedules
Instrumentation and Control		
40	IC-1	P&ID Bifurcation Vault
41	IC-2	Network Block Diagram
42	IC-3	Control Panel Typical Wiring Diagrams
Traffic Control		
43	TC-1	Legend and General Notes
44	TC-2	Traffic Control and Restoration Plan
45	TC-3	Traffic Control and Restoration Plan
46	TC-4	Traffic Control and Restoration Plan
47	TC-5	Traffic Control and Restoration Plan
48	TC-6	Lane Closure with Flagger Control Plan
49	TC-7	Sections and Details 1 Of 2
50	TC-8	Sections and Details 2 Of 2
Standard Details		
51	SD-1	Standard Details
52	SD-2	Standard Details
53	SD-3	Standard Details
54	SD-4	Standard Details
55	SD-5	Standard Details
56	SD-6	Standard Details
Optional Drawings - WWTF Effluent Pump Station, Flow Metering and Yard Piping Modifications		
57	C-13	WWTP Pump Station and Yard Piping Plan
58	C-14	WWTP Yard Piping Plan and Details
59	SM-6	WWTP Pump Station Plan
60	SM-7	WWTP Pump Station Section and Details
61	E-3	WWTP Pump Station Electrical Plan

Sheet Number	Drawing Number	Description
62	E-4	WWTP Pump Station One-Line Diagram, Panel Board Schedule, and Conduit/Conductor Schedules
Contingency Drawings		
63		Contingency Drawing 1
64		Contingency Drawing 2
65		Contingency Drawing 3
66		Contingency Drawing 4
67		Contingency Drawing 5
68		Contingency Drawing 6
69		Contingency Drawing 7
70		Contingency Drawing 8

Appendix B
Preliminary Project Schedule

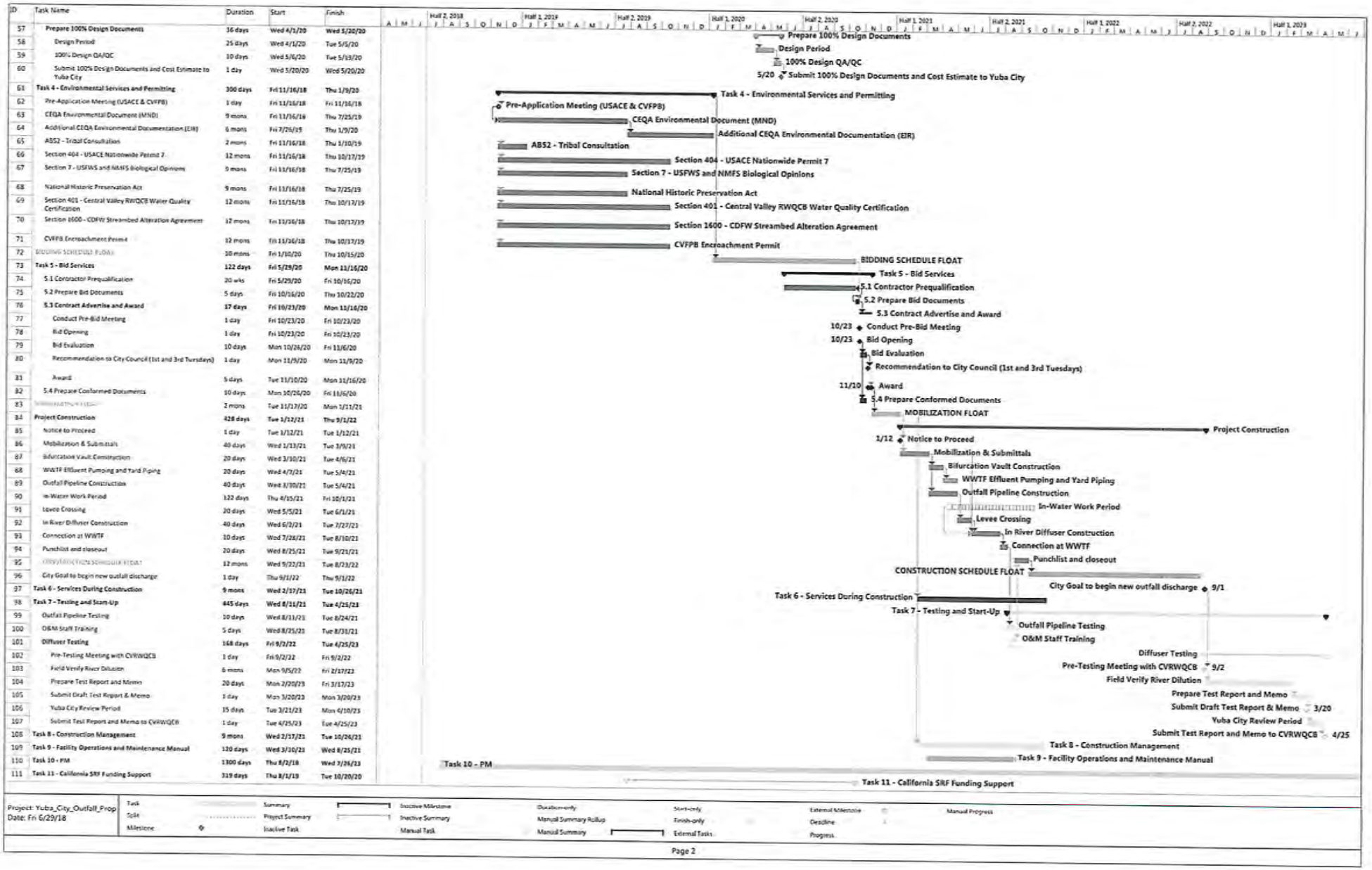


ID	Task Name	Duration	Start	Finish
1	Notice to Proceed	1 day	Wed 8/1/18	Wed 8/1/18
2	**Task 1 - Predesign**	**864 days**	**Wed 8/22/18**	**Mon 12/13/21**
3	Team Chartering	1 day	Wed 8/22/18	Wed 8/22/18
4	1.1 Review of Existing Studies	14 days	Thu 8/23/18	Tue 9/11/18
5	1.2 River Bathymetry	20 days	Wed 9/12/18	Tue 10/9/18
6	1.3 River Bedform and Sediment Transport Evaluation	40 days	Mon 10/1/18	Fri 11/23/18
7	**1.4 Dilution Technical Memorandum (TM)**	**71 days**	**Mon 11/26/18**	**Mon 3/4/19**
8	Prepare Dilution TM	40 days	Mon 11/26/18	Fri 1/18/19
9	Dilution TM QA/QC Review	15 days	Mon 1/21/19	Fri 2/8/19
10	Deliver Draft Dilution TM	1 day	Mon 2/11/19	Mon 2/11/19
11	Yuba City Review and Direction	15 days	Tue 2/12/19	Mon 3/4/19
12	**1.5 Outfall Pipeline and Pumping Evaluation**	**61 days**	**Thu 8/23/18**	**Thu 11/15/18**
13	Prepare Draft Pipeline and Pumping TM	30 days	Thu 8/23/18	Wed 10/3/18
14	Pipeline and Pumping TM QA Review	10 days	Thu 10/4/18	Wed 10/17/18
15	Deliver Draft Pipeline and Pumping TM	1 day	Thu 10/18/18	Thu 10/18/18
16	Yuba City Review	10 days	Fri 10/19/18	Thu 11/1/18
17	Fix-up draft and submit final TM	10 days	Fri 11/2/18	Thu 11/15/18
18	**1.7 and 1.8 Geotechnical Explorations and Reporting**	**213 days**	**Thu 8/23/18**	**Mon 6/17/19**
19	In-River Boring Permitting	7 mons	Thu 8/23/18	Wed 3/6/19
20	In-River Geotechnical Borings	15 days	Tue 3/26/19	Mon 4/15/19
21	Landside Geotechnical Borings	15 days	Tue 3/5/19	Mon 3/25/19
22	Geotechnical Reporting	3 mons	Tue 3/26/19	Mon 6/17/19
23	**1.9 DO Sag Analyis Field Testing Plan**	**770 days**	**Tue 1/1/19**	**Mon 12/13/21**
24	Develop field testing plan	5 mons	Tue 1/1/19	Mon 5/20/19
25	City testing period	31 mons	Tue 5/21/19	Mon 10/4/21
26	Prepare DO Sag Analyis Report	50 days	Tue 10/5/21	Mon 12/13/21
27	**1.10 30% Design and Predesign Report**	**92 days**	**Tue 3/26/19**	**Wed 7/31/19**
28	Prepare Draft Predesign Report	55 days	Tue 3/26/19	Mon 6/10/19
29	Deliver Draft Predesign Report	1 day	Tue 6/11/19	Tue 6/11/19
30	Yuba City Review	35 days	Wed 6/12/19	Tue 7/2/19
31	Prepare Final Predesign Report	20 days	Wed 7/3/19	Tue 7/30/19
32	Deliver Final Predesign Report	1 day	Wed 7/31/19	Wed 7/31/19
33	1.12 Predesign Surveys	20 days	Fri 11/16/18	Thu 12/13/18
34	**1.13 Utility Investigations**	**50 days**	**Fri 11/16/18**	**Thu 1/24/19**
35	Utility Letters and Records Research	30 days	Fri 11/16/18	Thu 12/27/18
36	Utility potholing	20 days	Fri 12/28/18	Thu 1/24/19
37	**Task 2 - Right of Way Acquisition**	**141 days**	**Thu 8/1/19**	**Thu 2/13/20**
38	Prepare Plats and Legal Descriptions	20 days	Thu 8/1/19	Wed 8/28/19
39	Deliver Property Easement/Acquisition Documents	1 day	Thu 8/29/19	Thu 8/29/19
40	Negotiate and Aquire Easements	5 mons	Fri 8/30/19	Thu 2/13/20
41	**Task 3 - Design**	**210 days**	**Thu 8/1/19**	**Wed 5/20/20**
42	**Project Meetings and Coordination**	**10 days**	**Thu 8/1/19**	**Wed 8/14/19**
43	Value Engineering Review	10 days	Thu 8/1/19	Wed 8/14/19
44	**Prepare 60% Design Documents**	**87 days**	**Thu 8/1/19**	**Fri 11/29/19**
45	Design Period	60 days	Thu 8/1/19	Wed 10/23/19
46	60% Design QA/QC	10 days	Thu 10/24/19	Wed 11/6/19
47	Submit 60% Design Documents and Cost Estimate to Yuba City	1 day	Thu 11/7/19	Thu 11/7/19
48	Yuba City Review Period	15 days	Fri 11/8/19	Thu 11/28/19
49	Constructability Review	10 days	Fri 11/8/19	Thu 11/21/19
50	Workshop to Receive Comments	1 day	Fri 11/29/19	Fri 11/29/19
51	**Prepare 90% Design Documents**	**87 days**	**Mon 12/2/19**	**Tue 3/31/20**
52	Design Period	60 days	Mon 12/2/19	Fri 2/21/20
53	90% Design QA/QC	10 days	Mon 2/24/20	Fri 3/6/20
54	Submit 90% Design Documents and Cost Estimate to Yuba City	1 day	Mon 3/9/20	Mon 3/9/20
55	Yuba City Review Period	15 days	Tue 3/10/20	Mon 3/30/20
56	Workshop to Receive Comments	1 day	Tue 3/31/20	Tue 3/31/20

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ID	Task Name	Duration	Start	Finish
57	**Prepare 100% Design Documents**	**16 days**	**Wed 4/1/20**	**Wed 5/20/20**
58	Design Period	25 days	Wed 4/1/20	Tue 5/5/20
59	100% Design QA/QC	10 days	Wed 5/6/20	Tue 5/19/20
60	Submit 100% Design Documents and Cost Estimate to Yuba City	1 day	Wed 5/20/20	Wed 5/20/20
61	**Task 4 - Environmental Services and Permitting**	**300 days**	**Fri 11/16/18**	**Thu 1/9/20**
62	Pre-Application Meeting (USACE & CVFPB)	1 day	Fri 11/16/18	Fri 11/16/18
63	CEQA Environmental Document (MND)	9 mons	Fri 11/16/18	Thu 7/25/19
64	Additional CEQA Environmental Documentation (EIR)	6 mons	Fri 7/26/19	Thu 1/9/20
65	AB52 - Tribal Consultation	2 mons	Fri 11/16/18	Thu 1/10/19
66	Section 404 - USACE Nationwide Permit 7	12 mons	Fri 11/16/18	Thu 10/17/19
67	Section 7 - USFWS and NMFS Biological Opinions	9 mons	Fri 11/16/18	Thu 7/25/19
68	National Historic Preservation Act	9 mons	Fri 11/16/18	Thu 7/25/19
69	Section 401 - Central Valley RWQCB Water Quality Certification	12 mons	Fri 11/16/18	Thu 10/17/19
70	Section 1600 - CDFW Streambed Alteration Agreement	12 mons	Fri 11/16/18	Thu 10/17/19
71	CVFPB Encroachment Permit	12 mons	Fri 11/16/18	Thu 10/17/19
72	BIDDING SCHEDULE FLOAT	10 mons	Fri 1/10/20	Thu 10/15/20
73	**Task 5 - Bid Services**	**122 days**	**Fri 5/29/20**	**Mon 11/16/20**
74	5.1 Contractor Prequalification	20 wks	Fri 5/29/20	Fri 10/16/20
75	5.2 Prepare Bid Documents	5 days	Fri 10/16/20	Thu 10/22/20
76	**5.3 Contract Advertise and Award**	**17 days**	**Fri 10/23/20**	**Mon 11/16/20**
77	Conduct Pre-Bid Meeting	1 day	Fri 10/23/20	Fri 10/23/20
78	Bid Opening	1 day	Fri 10/23/20	Fri 10/23/20
79	Bid Evaluation	10 days	Mon 10/26/20	Fri 11/6/20
80	Recommendation to City Council (1st and 3rd Tuesdays)	1 day	Mon 11/9/20	Mon 11/9/20
81	Award	5 days	Tue 11/10/20	Mon 11/16/20
82	5.4 Prepare Conformed Documents	10 days	Mon 10/26/20	Fri 11/6/20
83	MOBILIZATION FLOAT	2 mons	Tue 11/17/20	Mon 1/11/21
84	**Project Construction**	**428 days**	**Tue 1/12/21**	**Thu 9/1/22**
85	Notice to Proceed	1 day	Tue 1/12/21	Tue 1/12/21
86	Mobilization & Submittals	40 days	Wed 1/13/21	Tue 3/9/21
87	Bifurcation Vault Construction	20 days	Wed 3/10/21	Tue 4/6/21
88	WWTF Effluent Pumping and Yard Piping	20 days	Wed 4/7/21	Tue 5/4/21
89	Outfall Pipeline Construction	40 days	Wed 3/10/21	Tue 5/4/21
90	In-Water Work Period	122 days	Thu 4/15/21	Fri 10/1/21
91	Levee Crossing	20 days	Wed 5/5/21	Tue 6/1/21
92	In River Diffuser Construction	40 days	Wed 6/2/21	Tue 7/27/21
93	Connection at WWTF	10 days	Wed 7/28/21	Tue 8/10/21
94	Punchlist and closeout	20 days	Wed 8/25/21	Tue 9/21/21
95	CONSTRUCTION SCHEDULE FLOAT	12 mons	Wed 9/22/21	Tue 8/23/22
96	City Goal to begin new outfall discharge	1 day	Thu 9/1/22	Thu 9/1/22
97	**Task 6 - Services During Construction**	**9 mons**	**Wed 2/17/21**	**Tue 10/26/21**
98	**Task 7 - Testing and Start-Up**	**445 days**	**Wed 8/11/21**	**Tue 4/25/23**
99	Outfall Pipeline Testing	10 days	Wed 8/11/21	Tue 8/24/21
100	O&M Staff Training	5 days	Wed 8/25/21	Tue 8/31/21
101	**Diffuser Testing**	**168 days**	**Fri 9/2/22**	**Tue 4/25/23**
102	Pre-Testing Meeting with CVRWQCB	1 day	Fri 9/2/22	Fri 9/2/22
103	Field Verify River Dilution	6 mons	Mon 9/5/22	Fri 2/17/23
104	Prepare Test Report and Memo	20 days	Mon 2/20/23	Fri 3/17/23
105	Submit Draft Test Report & Memo	1 day	Mon 3/20/23	Mon 3/20/23
106	Yuba City Review Period	15 days	Tue 3/21/23	Mon 4/10/23
107	Submit Test Report and Memo to CVRWQCB	1 day	Tue 4/25/23	Tue 4/25/23
108	**Task 8 - Construction Management**	**9 mons**	**Wed 2/17/21**	**Tue 10/26/21**
109	**Task 9 - Facility Operations and Maintenance Manual**	**120 days**	**Wed 3/10/21**	**Wed 8/25/21**
110	**Task 10 - PM**	**1300 days**	**Thu 8/2/18**	**Wed 7/26/23**
111	**Task 11 - California SRF Funding Support**	**319 days**	**Thu 8/1/19**	**Tue 10/20/20**

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Appendix C
Fee Estimate and Rate Schedule

JACOBS PROJECT FEE ESTIMATE

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT Wastewater Treatment Facility Outfall and Diffuser Project	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Task 1 - Predesign	3,215	585,599	13,300	10,527	200,053	2,383	10,003	236,265	821,864
Task 1.1 - Review of Existing Studies	106	21,408	-	102	-	10	-	113	21,521
Task 1.2 - River Bathymetry	188	36,678	1,950	8,700	51,351	1,065	2,568	65,634	102,312
Task 1.3 - River Bedform and Sediment Transport Modeling Evaluation	436	96,834	650	50	-	70	-	770	97,604
Task 1.4 - Diffuser Design and Modeling TM	226	43,656	-	101	-	10	-	111	43,767
Task 1.5 - Outfall Pipeline and Pumping Predesign	596	101,730	400	150	-	55	-	605	102,335
Task 1.6 - Levee Crossing Predesign (MHM Task 1)	19	3,915	-	-	10,302	-	515	10,817	14,732
Task 1.7 - Geotechnical Exploration	143	18,872	600	269	110,755	87	5,538	117,249	136,121
Task 1.8 - Geotechnical Evaluation and Reports	193	28,562	-	104	-	10	-	114	28,676
Task 1.9 - DO Sag Analysis, Anti-Degradation Analysis, and & ROWD	298	56,648	6,300	467	-	677	-	7,443	64,091
Task 1.10 - 30% Design Development, Predesign Report, Schedule, and Cost Estimate	778	137,270	-	84	12,822	8	641	13,556	150,826
Task 1.11 - Predesign Meetings and Workshop	150	27,928	3,000	200	3,000	320	150	6,670	34,598
Task 1.12 - Surveying and Mapping	26	4,350	-	-	8,490	-	425	8,915	13,265
Task 1.13 - Utility Investigations	56	7,748	400	300	3,333	70	167	4,269	12,017
Task 2 - Right of Way Acquisition	53	9,445	-	-	167,486	-	8,374	175,860	185,305
Task 2.1 – Survey Support for Right of Way Acquisition	34	6,188	-	-	85,236	-	4,262	89,498	95,686
Task 2.2 - Appraisal and Acquisition Services	19	3,257	-	-	82,250	-	4,113	86,363	89,620
Task 3 - Design	3,086	512,216	6,200	223	48,451	642	2,423	57,939	570,155
Task 3.1 - Prepare 60% Design Documents	1,391	231,222	3,000	205	17,575	320	879	21,979	253,201
Task 3.2 – Prepare 90% Design Documents	981	162,948	3,000	18	15,869	302	793	19,983	182,931
Task 3.3 – Prepare 100% Design Documents	714	118,046	200	-	15,007	20	750	15,977	134,023
Task 4 - Environmental Services and Permitting	1,277	229,915	2,600	8,200	12,027	1,080	601	24,508	254,423
Task 4.1 – California Environmental Quality Act	1,277	229,915	2,600	8,200	12,027	1,080	601	24,508	254,423
Task 5 - Bid Services	224	36,911	600	5	19,279	60	964	20,908	57,819
Task 5.1 – Contractor Prequalification	62	11,304.0	200.0	4.6	6,554.0	20.5	327.7	7,106.8	18,410.8
Task 5.2 – Prepare Bid Documents	27	4,187.0	-	-	-	-	-	-	4,187.0
Task 5.3 – Contract Advertise and Award	106	17,177.0	400.0	-	10,189.0	40.0	509.5	11,138.5	28,315.5
Task 5.4 – Prepare Conformed Documents	29	4,243.0	-	-	2,536.0	-	126.8	2,662.8	6,905.8
Task 6 - Services During Construction	1,256	224,204	4,500	31	10,060	453	503	15,547	239,751
Task 6.1 – Office Services During Construction	1,256	224,204	4,500	31	10,060	453	503	15,547	239,751
Task 7 - Testing & Startup	678	141,098	2,800	14,426	17,000	1,723	850	36,799	177,897
Task 7.1 – Diffuser Performance Testing	622.0	130,626	2,500	14,426	17,000	1,693	850	36,469	167,095
Task 7.2 – O & M Staff Training	56.0	10,472	300	-	-	30	-	330	10,802
Task 8 - Construction Management	1,636	285,464	4,200	2,800	157,440	700	7,872	173,012	458,476
Task 8.1 – Document Management	416	51,036	800	-	10,090	80	505	11,475	62,511
Task 8.2 – Construction Contract Administration	1,032	198,824	-	-	-	-	-	-	198,824
Task 8.3 – Construction Field Inspections	188	35,604	3,400	2,800	147,350	620	7,368	161,538	197,142
Task 9 - Operations and Maintenance Manuals	112	20,812	-	500	-	50	-	550	21,362
Task 10 - Project Management	2,425	450,555	5,000	32	45,263	503	2,263	53,062	503,617
Task 10.1 - External Project Meetings	1,045	207,765	5,000	2	-	500	-	5,503	213,268
Task 10.2 - Develop and Maintain Project Management Tools	103	16,489	-	-	-	-	-	-	16,489
Task 10.3 – Project Controls and Invoicing	486	83,292	-	-	-	-	-	-	83,292
Task 10.4 – Project Team Coordination	541	98,990	-	30	-	3	-	33	99,023
Task 10.5 - Health and Safety	98	19,642	-	-	-	-	-	-	19,642
Task 10.6 – Subcontract Management	152	24,377	-	-	45,263	-	2,263	47,526	71,903
Task 11. California SRF Loan Application Support	292	49,864	-	124	-	12	-	136	50,000
Project Total without Supplemental Services (Task 12)	14,254	2,546,083	39,200	36,868	677,059	7,607	33,853	794,586	3,340,669
Task 12. Contingency	2,195	382,800	2,900	2,805	126,300	570	6,315	138,890	499,564
12.1 – Bathymetric Surveys in 2019, 2020 and 2021	158.0	30,312.0	150.0	150.0	67,900.0	30.0	3,395.0	71,625.0	101,937.0
12.2 – Environmental Impact Report	344.0	55,536.0	250.0	2,000.0	-	225.0	-	2,475.0	58,011.0
12.3 – Vacuum Assisted Siphon	462.0	96,034.0	900.0	-	10,000.0	90.0	500.0	11,490.0	85,398.0
12.4 – Archaeological Test Pits	272.0	44,728.0	1,600.0	650.0	20,000.0	225.0	1,000.0	23,475.0	68,203.0
12.5 – WWTF Effluent Pump Station, Flow Metering and Yard Piping Modifications	833.0	132,822.0	-	4.6	28,400.0	0.5	1,420.0	29,825.1	162,647.1
12.6 – Project Management for Contingency Tasks	126.0	23,368.0	-	-	-	-	-	-	23,368.0
Project Total with Supplemental Services (Task 12)	16,449	2,928,883	42,100	39,672	803,359	8,177	40,168	933,477	3,840,234

CH2M HILL ENGINEERS, INC.
Professionals and Technicians*
2018 Hourly Billing Rates**

Classification	Rate
Principal-in-Charge*	$260
Principal Professional 2*	$234
Principal Professional 1*	$198
Sr. Professional 2*	$177
Sr. Professional 1*	$167
Project Professional 2*	$156
Project Professional 1*	$129
Staff Professional 2*	$126
Staff Professional 1*	$108
Engineering Technician	$190
Technician	$112
Office/Clerical	$112

Notes:

* includes engineering, consulting, planner and scientist disciplines

**These rates are effective January 1, 2018 through December 31, 2018; rates are subject to 3% escalation annually

A markup of 10% shall be applied to all Other Direct Costs and Expenses ; 5% markup shall be applied to Subconsultants

An additional premium of 25% will be added to the above rates for Expert Witness and Testimony Services

Exhibit B
Professional Services Agreement
Insurance Requirements

I. **Workers' Compensation Coverage**. Consultant shall maintain Workers' Compensation Insurance for his/her employees in accordance with the laws of the State of California and Employers Liability Insurance in an amount not less than one million dollars ($1,000,000) per accident for bodily injury and/or disease. In addition, Consultant shall require each subcontractor to similarly maintain Workers' Compensation Insurance in accordance with the laws of the State of California and Employers Liability Insurance in an amount not less than one million dollars ($1,000,000) per accident for bodily injury and/or disease for all of the subcontractor's employees. Any notice of cancellation or non-renewal of all Workers' Compensation policies must be received by the City at least thirty (30) days prior to such change. The insurer shall agree to waive all rights of subrogation against City, its officers, agents, employees and volunteers for losses arising from work performed by Consultant for City. This provision shall not apply if Consultant has no employees performing work under this Agreement. If the Consultant has no employees for the purposes of this Agreement, Consultant shall sign the "Certificate of Exemption from Workers' Compensation Insurance" which is attached hereto as Exhibit C.

II. **General Liability Coverage**. Consultant shall maintain commercial general liability insurance in an amount not less than one million dollars ($1,000,000) per occurrence for bodily injury, personal injury and property damage. If a commercial general liability insurance form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit.

III. **Automobile Liability Coverage**. Consultant shall maintain automobile liability insurance covering bodily injury and property damage for all activities of the Consultant arising out of or in connection with the work to be performed under this Agreement, including coverage for owned, hired and non-owned vehicles, in an amount of not less than one million dollars ($1,000,000) combined single limit for each occurrence.

IV. **Professional Liability Coverage**. Consultant shall maintain professional errors and omissions liability insurance for protection against claims alleging negligent acts, errors or omissions which may arise from Consultant's operations under this Agreement, whether such operations are by the Consultant or by its employees, subcontractors, or sub-consultants. The amount of this insurance shall not be less

than one million dollars ($1,000,000) on a claims-made annual aggregate basis, or a combined single-limit per occurrence basis.

V. **Endorsements**. Each general liability and automobile liability insurance policy shall be with insurers possessing a current A.M. Best's rating of no less than A:VII and shall be endorsed with the following specific language or equivalent:

A. The City, its elected or appointed officers, officials, employees, agents and volunteers are to be covered as additional insured with respect to liability arising out of work performed by or on behalf of the Consultant, including materials, parts or equipment furnished in connection with such work or operations. Conforms to ISO CG 2009 and CG 2037 10 01. Both are required.

B. This policy shall be considered primary insurance as respects to the City, its elected or appointed officers, officials, employees, agents and volunteers. Any insurance maintained by the City, including any self-insured retention the City may have, shall be considered excess insurance only and shall not contribute with it.

C. This insurance shall act for each insured and additional insured as though a separate policy had been written for each, except with respect to the limits of liability of the insuring company.

D. The insurer waives all rights of subrogation against the City, its elected or appointed officers, officials, employees or agents.

E. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its elected or appointed officers, officials, employees, agents or volunteers.

F. The insurance provided by this policy shall not be suspended, voided, canceled, or reduced in coverage except after thirty (30) days written notice has been received by the City.

VI. **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions must be declared to and approved by the City. At the City's option, Consultant shall demonstrate financial capability for payment of such deductibles or self-insured retention's.

VII. **Certificates of Insurance**. Consultant shall provide certificates of insurance with original endorsements to City, as evidence of the insurance coverage required herein. Certificates of such insurance shall be filed with the City on or before commencement of performance of this agreement. Current certification of insurance shall be kept on file with the City at all times during the term of this Agreement.

Exhibit C

Public Works

AMENDMENT NO. 1 TO THE AGREEMENT FOR PROFESSIONAL SERVICES CH2M HILL ENGINEERS, INC.

Brett Isbell
CH2M Hill Engineers, Inc.
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

SUBJECT: Wastewater Treatment Facility's Outfall and Diffuser Project

This Amendment to the Agreement for Professional Services dated July 18, 2018 is made and entered into as of the 12th day of July 2019 by and between the City of Yuba City ("City") and CH2M Hill Engineers, Inc. ("Consultant").

Whereas, by Agreement for Professional Services dated July 18, 2018 ("Prime Agreement"), City awarded to Consultant the development of construction design documents for the Wastewater Treatment Facility Outfall and Diffuser Project in the amount of $2,783,430. The parties agree to amend the contract provisions to be made part of the Prime Agreement as follows:

SECTION 1, SCOPE OF SERVICES

The following paragraph shall be added to the Scope of Services of the Prime Agreement:

Consultant shall perform the services described on **Exhibit A-1** which is attached hereto and incorporated herein by reference. Consultant shall provide said services at the time, place, and in the manner specified in Exhibit A-1, subject to the direction of the City through its staff that it may provide from time to time.

SECTION 3, COMPENSATION

The following paragraph will be added to the Compensation of the Prime Agreement:

Compensation to be paid to Consultant shall be in accordance with the Schedule of Charges set forth in Exhibit A-1, which is attached hereto and incorporated herein by reference. In no event shall Consultant's additional compensation for the amended scope of services exceed one hundred sixty-two thousand eight hundred seventy-seven dollars ($162,877), for a contract total of **two million nine hundred forty-six thousand three hundred seven dollars ($2,946,307),** without additional written authorization from the City. Payment by City under this Agreement shall not be deemed a waiver of defects, even if such defects were known to the City at the time of payment.

Except as amended in this Amendment No. 1, the terms and conditions of the Prime Agreement shall remain the same and shall be in full force and effect. This Amendment No. 1 is not effective until approved and executed by the authorized City representative.

We, the undersigned Consultant, agree that, if this Amendment is approved and executed by the City, we will furnish all materials, equipment, and services required, except as noted, to accomplish the above specified work, and will accept as full payment therefore the prices indicated.

Accepted:

Date: 7/8/2019

Brett Isbell
Designated Manager

Approved:

Date: 7/12/19

Diana Langley
Interim City Manager

Kindly execute the original and two (2) copies and return to City Hall at 1201 Civic Center Boulevard, Yuba City, CA 95993; the City will return a fully-executed copy to you via mail for your files.

EXHIBIT A-1

Amendment 1 - Attachment 1

Summary of Recommended Sediment Transport Evaluation Follow-Up Activities (New Task 13.2)
(River Bathymetry and Bedform Data Collections, Modeling, Analyses, and Reporting)
May 6, 2019

Topic and Issues	How it Informs the Project	Workplan to Address Issue	Estimated Level of Effort	Schedule Considerations
Spring 2019 Bathymetric Survey and ADCP Current Measurements *(will be allocated to Task 1.3.1.a)*	Provides updated river bed survey data to document response of Feather River bed to winter/spring 2019 high river flows. Provides key input to bedform modeling and elevation change predictions. Provides updated detailed river current velocities for model calibration update and for dilution modeling inputs.	Solmar Hydro Inc. (SHI) to perform 2019 river data collections in May rather than October 2019, along with ADCP current measurements to feed into diffuser design and site selection. Solmar Hydro Inc. (SHI) to perform 1.5-mile downstream longitudinal transect survey.	2019 Bathymetric Survey is already included under Task 12.1 and ADCP current measurements are already included under Task 1.2.b. River-bottom downstream longitudinal transect survey, data processing, and report (SHI) – $8,663 with Jacobs markup. Jacobs to review River-bottom downstream longitudinal transect survey and report. Additional Jacobs labor effort is approximately 6 hours for senior technical review. Jacobs to update the river bed profile and geomorphic evaluation in the draft Geomorphology, Sediment Transport, and Bedform Analysis TM. Additional Jacobs labor effort is approximately 40 hours for TM revisions and review. Additional cost is $20,000 for SHI subcontract and Jacobs labor, including project management.	Need to perform bathymetric survey in May 2019 to allow collected data to inform the dilution modeling and diffuser design and siting. Approximately 8 weeks to complete this work.
2019 Supplemental River Bedform Modeling and Evaluation *(will be allocated to Task 1.3.1.b)*	Provides additional river modeling and geomorphology analyses of the Feather River Study Reach to respond to enquiries from the City at the River Bedforms and Sediment Transport Workshop (January 2019), and to use the results in the Geomorphology, Sediment Transport, and Bedform Analysis TM for diffuser site selection.	Jacobs hydraulic modeler and geomorphologist will perform additional modeling and analyses of the Feather River Study Reach to expand and complete the development of the Geomorphology, Sediment Transport, and Bedform Analysis TM.	Jacobs will perform additional river modeling and geomorphology analyses of the Feather River to complete the development of the Geomorphology, Sediment Transport, and Bedform Analysis TM. Additional Jacobs labor effort is approximately 35 hours for senior modeler, 35 hours for geomorphologist, and 10 hours for senior technical reviews. Jacobs project manager and geomorphologist to attend and contribute to a new Diffuser Site Selection Workshop – 8 hours each. Senior modeler attends by phone – 4 hours. Additional cost is $25,000 for Jacobs labor.	This work has already been completed as part of the preparation of the draft Geomorphology, Sediment Transport, and Bedform Analysis TM.
2019 River-Bottom Geophysical Survey *(will be allocated to Task 1.3.1.c)* Unknown depth to bedrock (or hardened layers) below fluvial deposits in channel bed at potential diffuser sites between River Cross-sections 13-16. Data about the depth to bedrock would increase understanding of the potential for the channel to scour in this location, and in the exact siting and design of the diffuser structure.	Provides site-specific information on depth to bedrock for a more accurate determination of potential geomorphic risks associated with locating the diffuser, and a more detailed assessment for siting and design of the diffuser. This data collection will be used to update and refine geologic assumptions used in the geomorphic assessments and provide a more refined estimate of potential for these areas to be undermined/scoured for a range of hydrologic scenarios. Design team to also use this data to provide a more detailed estimate of diffuser pipe location and design concepts.	Solmar Hydro Inc. (SHI) will perform river-bottom geophysical surveys in the river immediately following the spring bathymetric survey work. A marine geophysicist will direct the data collections using Electrical Resistivity Tomography (ERT) and Refraction Microtremor (RM) methods to determine the depth to bedrock (or hardened layers) below fluvial deposits between River Cross-Sections 13-16. Refer to the Solmar Hydro Proposal (separate document).	River-bottom Geophysical Survey and Data Report (SHI) – $54,180 with Jacobs markup. Jacobs will review data report and incorporate into geomorphic evaluation in the Geomorphology, Sediment Transport, and Bedform Analysis TM. Additional Jacobs labor effort is approximately 40 hours of modeling with variations in substrate configuration to determine sensitivity of sediment assumptions on predicted bed changes, approximately 40 hours for TM revisions, and approximately 5 hours for senior technical reviews. Additional cost is $75,000 for SHI subcontract and Jacobs labor, including project management.	Need to perform river-bottom survey coordinated with the bathymetric survey in May 2019 to optimize cost of survey vessel and SHI staff. Data to inform the diffuser design and siting.
Bedform Evaluation Update to Address Downstream Channel Constriction *(will be allocated to Task 1.3.1.d)* The significant "sediment mound" at the south end of the project study reach is a channel depth constriction that appears to control channel bed stability and depths at Cross-Sections 13-16 (target diffuser site).	The stability of the downstream "sediment mound" is key to the long-term stability of the channel bed between Cross-Sections 13-16 and additional modeling and analyses will inform assessment of bedform risks at the target diffuser site. Additional analyses will improve our understanding of the stability this feature, indicate potential future changes to the channel bed elevation at Cross-sections 13-16, and reduce uncertainty in design.	Integrate CVFED HEC-RAS (2011?) cross-sections into SRH-2D model to determine channel bed and hydraulic slope for several miles downstream of the Study Reach to determine the potential erodibility of sediment mound and potential bed elevation changes at Cross-Sections 13-16. Rerun hydraulic and sediment model for range of hydrologic and hydraulic scenarios to determine stability of this feature.	Jacobs will conduct modeling and update geomorphic evaluation in the Geomorphology, Sediment Transport, and Bedform Analysis TM. Additional Jacobs labor effort is approximately 50 hours of modeling, 40 hours of geomorphic evaluation, and 40 hours of TM revisions and review. Additional cost is $30,000 for Jacobs labor, including project management.	Approximately 3 weeks to complete this work following the bathymetric survey (May 2019) to inform the diffuser design and siting.
		Total Cost:	$150,000 + $12,877* = $162,877.00	

* Supplemental Drone Survey completed in 2018 in the amount of $12,877

Yuba City WWTF Outfall and Diffuser Project

Amendment 1 - Summary

This Amendment 1 is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work) to the Yuba City Wastewater Treatment Facility Outfall and Diffuser Project. Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

Amendment 1 includes scope and funding to supplement two items for follow-on work for the predesign phase of the Yuba City Wastewater Treatment Facility Outfall and Diffuser Project.

Item 1A - Supplemental Drone Survey

Item 1A will provide supplemental site topography with 1-foot contours and a digital terrain model using data from an Unmanned Aircraft System (UAS) technology to supplement bathymetric surveys completed in the fall of 2018. The following attachments are included as follows:

- Attachment A1: Supplemental Drone Survey Scope of Work and Fee Estimate

Item 1B - River Bedform and Sediment Transport Follow Up Items

Item 1B will provide additional river bedform and sediment transport modelling and evaluation under Task 1.3 and 12.1 with follow up analysis to refine the selection of the river diffuser location. Amendment 1 will add additional scope and funding to Task 1.3 and Task 12.1 from the original Project Scope of Work. Subtasks for new follow up work are identified under Task 1.3.1 and 12.1.1. Attachments are included as follows:

- Attachment A2: River Bedform and Sediment Transport Follow Up Scope of Work and Fee Estimate

Rates and Fees for Engineering Services

Fees for the proposed engineering services are shown in the following table and are based on the same rates as contracted for the City's Outfall and Diffuser Project.

Item	Services	Hours	Jacobs Total Labor	Total Expenses	Total Fee Estimate
1A	Supplemental Surveys to Support River Bathymetry	15	$2,778	$10,099	$12,877
1B	Sediment Transport Follow-Up Items	425	$86,640	$63,360	$150,000
	Amendment 1 Total				$162,877

Current Contract Value

The table below summarizes the new total contract value to date including this amendment.

Description	Total Fee Estimate
Original Contract Value	$2,783,430
Amendment 1	$162,877
New Contract Value	$2,946,307

Yuba City WWTF – Outfall and Diffuser Project Amendment 1A – Supplemental Surveys to Support River Bathymetry

Scope of Work

This Scope of Work is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

Amendments to Tasks 1 and 10 as described below, including listed subtasks, are included in this Scope of Work.

Task 1. Predesign

JACOBS will complete additional predesign tasks as outlined below.

Task 1.2 – River Bathymetry and Data Collections

1.2.c Supplemental Surveys to Support River Bathymetry

- Jacobs will subcontract with MHM to provide supplemental aerial mapping surveys for the Shanghai Bend Falls Area and the Hock Farm Area as described below.
- The consultant shall use data derived from Unmanned Aircraft System (UAS) technology to provide site topography with 1-foot contours, and this data will also be joined into a seamless three-dimensional reconstruction of the ground surface. The topography will include the terrain as well as aboveground features such as rocks, structures, and treetops. The limits of this work in mostly within the river banks so there are no structures. This surface will be produced as georeferenced .tiff files which are compatible for use Geographic Information Systems (GIS) like any other elevation raster. Post-processing of UAS data will also generate contours from the topographic surfaces as GIS shapefiles or ACAD dwg files. The positional accuracy relative to project control, of the data collected shall be a standard error of less than 0.10 ft on hard surface topography and less than 0.50 ft on soft surface topography. All control surveys will be conducted utilizing the most efficient combination of Global Positioning System (GPS) technology and conventional survey methods. The method used to capture the point data will be controlled by the accuracy specifications required by the project specifications.
- Captured point data from initial control surveys will be immediately evaluated and post processed to conform to the project accuracy standards. The processed control data shall be adjusted and calibrated to the most current documentation of NAD83 and NAVD88 by the National Geodetic Survey. All point data captured for the topographic mapping will be post processed and exported in an ASCII format and imported into an electronic drawing file to initiate the development of the final base mapping.

City Involvement:

- None

Assumptions:

- None

Deliverables:

- Aerial Topographic Mapping
- Aerial Imagery
- Survey Control Data Sheet
- Digital Terrain Model (DTM)

Task 10. Project Management

JACOBS will complete project management tasks as outlined below.

Task 10.6 – Subcontract Management

JACOBS will manage the performance of our subconsultants to comply with the scope of work, schedule, and budget described in this amendment. This task includes setting up subconsultant contracts and required pre-procurement reviews, reviewing monthly subconsultant invoices and progress reports, and monitoring and tracking subconsultant payments.

Rates and Fees for Engineering Services

Fees for the proposed engineering services are shown in Appendix A and are based on the same rates as contracted for the City's Outfall and Diffuser Project.

Appendix A
Fee Estimate

Engineering Services Estimate
Supplemental Surveys to Support River Bathymetry
City of Yuba City, California

Task & Year	Jacobs Total Hours	Jacobs Total Labor	Travel	Expense	10% ODC & Travel Markup	Subcontract	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Task 1.2.c - Supplemental Surveys to Support River Bathymetry					10%		5%		
2019	4								
Subtotal Labor & Expenses	$936		$0	$0	$0	$9,618	$481	$10,099	$11,035
Task 10 - Project Management									
2018	11								
2019	0								
Subtotal Labor & Expenses	$1,842		0	0	$0	0	$0	$0	$1,842
Total Hours	15								
Total Labor & Expenses	$2,778		$0	$0	$0	$9,618	$481	$10,099	$12,877

Yuba City WWTF Outfall and Diffuser Project

Amendment 1B – Sediment Transport Follow-Up Items

Scope of Work

This Scope of Work is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

This Scope of Work is for River Bedform and Sediment Transport Follow Up Activities. This amendment will add additional scope and funding to Task 1.3, Task 10, and Task 12.1 from the original Project Scope of Work. The intent is to finish the river bedform and sediment transport modelling and evaluation started under Task 1.3 and 12.1 with follow up analysis to refine the selection of the river diffuser location.

The total cost estimate is $149,923 (Appendix A). The consultant is not obligated to spend above this amount.

Task 1. Predesign

Task 1.3 River Bedform and Sediment Transport Modeling

River Bedform and Sediment Transport Follow Up

This subtask is follow-up work to Task 1.3. Original task objectives that are still relevant include: 1) utilize new field data to support stability assessment and sediment transport modeling analysis; 2) further develop understanding of short term and long-term geomorphic processes in project reach; 3) continue to conduct channel stability assessment to support optimal placement for proposed outfall and diffuser; and 4) inform outfall diffuser design to maintain functionality through foreseeable variability in sediment bedload transport and bedform conditions. Work activities will include:

Spring 2019 Bathymetric Survey and ADCP Current Measurements

- River data collections, along with ADCP current measurements, will be completed under Task 12.1.
- Provide senior technical review of river-bottom downstream longitudinal transect survey and report.
- Provide updated river bed survey data of Feather River during winter/spring 2019 high river flows.
- Provide updated detailed river current velocities for model calibration update and for dilution modeling inputs.

- Revise the river bed profile and geomorphic evaluation in the draft Geomorphology, Sediment Transport, and Bedform Analysis TM to incorporate new river data and further calibrate dilution model.

2019 Supplemental River Bedform Modeling and Evaluation

- Perform additional modeling and analyses of the Feather River Study Reach to expand and complete the development of the Geomorphology, Sediment Transport, and Bedform Analysis TM.
- Respond to enquiries from the City at the River Bedforms and Sediment Transport Workshop (January 2019), about river modeling and geomorphology questions of the Feather River Study Reach.
- Select a recommended diffuser site selection based off further river modeling and geomorphology analysis.
- Prepare for, attend, and contribute to diffuser site location discussion at Diffuser Site Selection Workshop.

2019 River-Bottom Geophysical Survey

Unknown depth to bedrock (or hardened layers) below fluvial deposits in river channel bed at potential diffuser sites between River Cross-sections 13-16 need to be investigated. Data about the depth to bedrock would increase understanding of the potential for the channel to scour in this location, and in the exact siting and design of the diffuser structure.

- Review results of River-bottom Geophysical Survey and Data Report prepared under Task 12.1 below.
- Update and refine geologic assumptions used in the geomorphic assessments and provide a more refined estimate of potential for these areas to be undermined/scoured for a range of hydrologic scenarios.
- Provide a more detailed estimate of diffuser pipe location and design concepts, using the refined geologic assumptions.
- Refine development of the Geomorphology, Sediment Transport, and Bedform Analysis TM to incorporate new information and results.

Bedform Evaluation Update to Address Downstream Channel Constriction

The significant "sediment mound" at the south end of the project study reach is a channel depth constriction that appears to control channel bed stability and depths at Cross-Sections 13-16 (target diffuser site). Additional modeling and analyses will inform assessment of bedform risks at the target diffuser site.

- Integrate CVFED HEC-RAS cross-sections into SRH-2D model to determine channel bed and hydraulic slope for several miles downstream of the Study Reach to determine the potential erodibility of sediment mound and potential bed elevation changes at Cross-Sections 13-16.
- Perform additional analyses to improve understanding of the stability of the downstream channel feature, indicate potential future changes to the channel bed elevation at Cross-sections 13-16, and reduce uncertainty in design.
- Rerun hydraulic and sediment model for range of hydrologic and hydraulic scenarios to determine stability of the downstream channel feature.
- Refine development of the Geomorphology, Sediment Transport, and Bedform Analysis TM to incorporate new information and results.

City Involvement:

- Provide reviews and input during project review meetings and to the technical memorandum.
- Attends and provides input during Diffuser Site Selection Workshop.

Assumptions:

- Bathymetric survey will be completed in May 2019 to allow collected data to inform the dilution modeling and diffuser design and siting. Dilution modeling and diffuser siting work will take approximately 8 weeks and can't begin until the bathymetric survey (May 2019) is complete.
- River-bottom survey will be performed in coordination with the bathymetric survey in May 2019 to optimize cost of survey vessel and SHI staff.
- Bedform evaluations to address the downstream channel constriction can't occur until the bathymetric survey (May 2019) has been completed, this will take approximately 3 weeks to complete this work.

Deliverables:

- Diffuser Site Selection Workshop presentation and materials
- River-bottom Geophysical Survey and Data Report
- Final Geomorphology, Sediment Transport, and Bedform Analysis Technical Memorandum

Task 10. Project Management

Jacobs will complete project management tasks as outlined below.

Task 10.3 – Project Controls and Invoicing

Jacobs project controls staff will prepare regular internal cost reports for review by the Jacobs Project Manager. Jacobs will also prepare monthly invoices (including subconsultant invoices) and a Project Status Report including progress report narrative, scope change summary, and schedule and budget status for the work added by this amendment.

City Involvement:

- Review and approve monthly invoice.

Assumptions:

- Budget status burn charts are not included.

Deliverables:

- Monthly invoices and Project Status Reports

Task 10.4 – Project Team Coordination

Jacobs will conduct the following internal team coordination activities:

- Regular project team coordination meetings

Task 10.6 – Subcontract Management

Jacobs will manage the performance of our subconsultants to comply with the scope of work, schedule, and budget. This task includes setting up subconsultant contracts and required pre-procurement reviews, reviewing monthly subconsultant invoices and progress reports, maintaining annual insurance and safety documents, and monitoring and tracking subconsultant payments.

Task 12. Supplemental Services

12.1 – Bathymetric Surveys in 2019, 2020 and 2021

Jacobs will subcontract with Solmar Hydro to complete the following activities:

- Perform river-bottom geophysical surveys in the river immediately following the spring bathymetric survey work. A marine geophysicist will direct the data collections using Electrical Resistivity Tomography (ERT) and Refraction Microtremor (RM) methods to determine the depth to bedrock (or hardened layers) below fluvial deposits between River Cross-Sections 13-16.
- Provide site-specific information on depth to bedrock for a more accurate determination of potential geomorphic risks associated with locating the diffuser, and a more detailed assessment for siting and design of the diffuser.
- Provide river-bottom Geophysical Survey Data and Report.
- Perform 1.5-mile additional bathymetric survey along the river thalweg downstream of the current study area to investigate the changes in the sand bench downstream of the study area.

City Involvement:

- Facilitate access to secure survey benchmarks to allow for locating Trimble base RTK station on tripod during bathymetric survey and field data collection days.

Assumptions:

- Field services will be conducted in accordance with JACOBS's Field Safety Instructions (FSI) for this project. Vessel safety and operational safety will be the responsibility of the hydrographic surveyor. For safety reasons, all field activities on the river will be limited to daylight hours. These field measurements are assumed to require four to six consecutive field days on the Feather River.
- Prior to mobilizing personnel and equipment for the week of survey work, river flow and stage forecasts will be evaluated to decide if adequate and safe river conditions are forecast for the work period. Seasonal river flows will not restrict boat access and data acquisition to the point of damage or imminent danger to personnel and equipment.
- All deliverables will be provided to City in an electronic file format (pdf) and limited hard copies can be provided on request.

Deliverables:

- A concise bathymetric survey report will be produced, and report charts will be provided. The report charts will include depth contours at 1-foot intervals, color TIN (Triangulated Irregular Networks), and track-lines. Report charts will be produced in the horizontal and vertical datum defined above. This report will describe the control used for the survey, data acquisition methodology, calibrations, and data processing procedures. Report deliverables will include an ASCII file of the XYZ data, AutoCAD and Civil 3D DWG files.
- River-bottom Downstream Longitudinal Transect Survey and Report

Project Schedule

Delivery of the activities described in this amendment is controlled by the completion of the bathymetric survey, river-bottom geophysical survey, and river-bottom downstream longitudinal transect survey. These surveys are needed to refine the riverbed and geomorphic analysis and modeling. Bedform evaluations to address the downstream channel constriction can't occur until the bathymetric survey (May 2019) has been completed, this will take approximately 3 weeks to complete this work.

Furthermore, other tasks such as the dilution modeling and diffuser design (Task 1.4) can't begin until the bathymetric survey (May 2019) is complete. Immediately upon issuing a Notice to Proceed, Jacobs will subcontract with Solmar Hydro Inc. (SHI) to perform the bathymetric, river-bottom geophysical, and river-bottom downstream longitudinal transect surveys.

Rates and Fees for Engineering Services

Fees for the proposed engineering services are shown in Appendix A and are based on the same rates as contracted for the City's Outfall and Diffuser Project.

Appendix A
Fee Estimate

Yuba City WWTF Outfall and Diffuser Project
Sediment Transport Follow-Up Items
APPENDIX A. JACOBS FEE ESTIMATE

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT WWTP Outfall and Diffuser	2018 2019 2020 2021 2022 2023 PDC	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Amendment 18										
River Bedform and Sediment Transport Follow Up Task										
Subtask 1.3 - Spring 2019 Bathymetric Survey and ADCP Current Measurements										
Subtotal - Subtask 1.3 - Spring 2019 Bathymetric Survey and ADCP Current Measurements		40	$ 7,893	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,893
Subtotal - Subtask 1.3 - 2019 Supplemental River Bedform Modeling and Evaluation		109	$ 22,866	$ 200	$ 100	$ -	$ 30	$ -	$ 330	$ 23,196
Subtotal - Subtask 1.3 - 2019 River-Bottom Geophysical Survey		80	$ 17,078	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,078
Subtotal - Subtask 1.3 - Bedform Evaluation Update to Address Downstream Channel		129	$ 28,151	$ -	$ 170	$ -	$ 17	$ -	$ 187	$ 28,338
Subtotal - Task 10 - Project Management		56	$ 8,452	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,452
Subtotal - Subtask 12.1 - River-bottom Geophysical Survey and Downstream Longitudinal Transect Survey		11	$ 2,200	$ -	$ -	$ 8,250	$ -	$ 413	$ 8,663	$ 65,043
River Bedform and Sediment Transport Follow Up Task Hours		425								
River Bedform and Sediment Transport Follow Up Task Budget			$ 86,640	$ 200	$ 270	$ 59,850	$ 47	$ 2,993	$ 63,360	$ 150,000

TOTAL $ 150,000

Exhibit D

AMENDMENT NO. 2 TO THE AGREEMENT FOR PROFESSIONAL SERVICES
CH2M HILL ENGINEERS, INC.

CH2M Hill Engineers, Inc.
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

SUBJECT: Amendment No. 2 to Scope of Services for Yuba City WWTF - Outfall and Diffuser Project

This Amendment to the Agreement for Professional Services dated July 18, 2018 ("Second Amendment") is made and entered into as of the 10th day of July 2020 by and between the City of Yuba City ("City") and CH2M Hill Engineers, Inc. ("Consultant").

Recitals

Whereas, by Professional Services Agreement dated July 18, 2018 ("Prime Agreement"), City entered into an agreement with Consultant for professional engineering services for the City's Outfall and Diffuser Project in the amount of $2,783,430.00.

Whereas, the City Manager approved Amendment No.1 to the Prime Agreement on July 12, 2019.

Whereas, the Parties desire to amend the Prime Agreement for a second time to provide for additional tasks, and updated scope of service, revised compensation, and other items related to the Project.

Agreement

In consideration of the foregoing Recitals and for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the City and Consultant agree as set forth herein.

1. Section 3, Compensation, of the Prime Agreement is amended to add the following:

   For services rendered by Consultant under this Amendment No. 2 to the Prime Agreement as outlined above, Consultant is authorized to transfer $289,786 from Task 3 (Design) of Prime Agreement to other appropriate tasks to complete the scope of work described in Exhibit "A". The total cost of Amendment No. 2 shall not exceed $289,786. The City shall consider adding additional funds needed to complete Task 3 at a later date if decided to proceed with the final design.

2. Except as amended in this Second Amendment, the terms and conditions of the Prime Agreement (attached as Exhibit "B") and First Amendment (attached as Exhibit "C") shall remain the same and shall be in full force and effect. This Second Amendment is not effective until approved and executed by the authorized City representative.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date and year first written above.

CITY:

CITY OF YUBA CITY, a municipal corporation

Diana Langley

Diana Langley, Interim City Manager

APPROVED AS TO FORM:
ALESHIRE & WYNDER, LLP

Shannon Chaffin, City Attorney

CONSULTANT:

CH2M HILL ENGINEERS, INC.

July 14, 2020

Name: Lisa Alliger, PE

Title: Designated Project Executive

Kindly execute the original and two (2) copies and return to City Hall at 1201 Civic Center Boulevard, Yuba City, CA 95993; the City will return a fully-executed copy to you via mail for your files.

Attachments:

Exhibit A: Amended Exhibit A to Prime Agreement
Exhibit B: Prime Agreement
Exhibit C: Amendment No. 1 (First Amendment)

Exhibit A

Yuba City WWTF Outfall and Diffuser Project

Amendment 2 - Summary

This Amendment 2 is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work) to the Yuba City Wastewater Treatment Facility Outfall and Diffuser Project (Project). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

Amendment 2 includes scope and funding to supplement two items for follow-on work: 2A) for the predesign phase of the Project and 2B) for the Advanced Treatment Study to evaluate alternative treatment options to the Project. The City directed Jacobs to stand-down work on transitioning to final design activities for the Project on February 24, 2020, while a brief Advanced Treatment Study was conducted. However, there was some finalization of predesign activities and project management activities that were authorized by the City to continue during the Stand-down period. Scope and funding of these activities are included in item 2A.

Item 2A – Predesign Follow-up Work and Activities during Stand-down Period

Item 2A will provide additional support for activities during the predesign phase including effluent pumping system testing support, in-river geotechnical boring permitting support, dynamic modeling support, spring season bathymetry surveys, and project management support. Additional Project elements were included in the predesign than were previously scoped including a levee access ramp, a surge control system, a hydraulic and scour analysis, WWTF pump station modifications, and an additional predesign workshop.

Item 2A also includes project management activities and continuation of authorization predesign activities during the stand-down period.

The following attachments are included as follows:

- Attachment 2A: Predesign Follow-up Work Scope of Work and Fee Estimate

Item 2B – City of Yuba City WWTF Advanced Treatment Study

Item 2B will provide WWTF staff an advanced treatment study to validate their current WWTF improvement and regulatory compliance strategy. At the completion of the WWTF Outfall and Diffuser predesign phase the City has opportune time for conducting this study given the potential need to invest up to approximately $35 million to construct the Outfall and Diffuser Project. The study will compare relative costs, advantages and disadvantages for continued operation of the WWTF (as configured currently with the construction of the new proposed Diffuser) with one or two alternative configurations for advanced treatment, in conjunction with a side-bank point discharge into the Feather River per detailed scope of work for the advanced treatment study.

Amendment 2 will add additional scope and funding to the original Project Scope of Work under a new Task 13 for this study. Subtasks for new Task 13 will include subtask 13.1 - Project Development Assistance, subtask 13.2 – Advanced Wastewater Treatment Study, subtask 13.3 – Project Management, and subtask 13.4 – Owner's Authorized Supplemental Services. Approximately $40,000 will be included in subtask 13.4 for an owner's authorized supplemental services to be utilized upon City approval of scope and fee, if needed.

Attachments are included as follows:

- Attachment 2B: City of Yuba City WWTF Advanced Treatment Study Scope of Work and Fee Estimate

Rates and Fees for Engineering Services

Fees for the proposed engineering services are shown in the following table and are based on the same rates as contracted for the City's Outfall and Diffuser Project.

Item	Services	Hours	Jacobs Total Labor	Total Expenses	Total Fee Estimate
2A	Predesign Follow-up Work and Activities during Stand-down Period	892	$159,339	$10,410	$169,749
2B	City of Yuba City WWTF Advanced Treatment Study	565	$119,274	$762	$120,037
	Amendment 2 Total				$289,786

Current Contract Value

The Amendment 2 budget of $289,786 will be funded by a portion of the existing authorized contract tasks such as Task 3 Final Design budget of $570,154 for the Project. If the final design of the Project is authorized by the City in late 2020, funds will be added by separate amendment to replace Task 3 funds.

The table below summarizes the new total contract value to date including this amendment.

Description	Total Fee Estimate
Original Contract Value	$2,783,430
Amendment 1	$162,877
Amendment 2	$0
New Contract Value	$2,946,307

Attachment 2A: Predesign Follow-up Work Scope of Work and Fee Estimate

Yuba City WWTF Outfall and Diffuser Project

Amendment 2: Item 2A

Predesign Follow-Up Work

Scope of Work

This Scope of Work is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

This Scope of Work is for 30% predesign follow-on activities. This amendment will add additional scope and funding to Task 1, Task 2, Task 4, Task 10, and Task 12 from the original Project Scope of Work. The intent is to supplement the existing predesign budgets for additional authorized activities that occurred during the Predesign phase.

The total cost estimate is $169,749 (Appendix A). The consultant is not obligated to spend above this amount. Additional activities such as final design elements from the recommendations included in the final Predesign Report and other services like engineering services during construction, startup and testing, and construction management are not included in this amendment, and will need to be contracted separately if needed by the City.

Task 1. Predesign

Task 1.5.b – Pumping Predesign

Effluent Pumping System Testing Support
This subtask is follow-on work to Task 1.5.b for refinement of the hydraulic model and additional model calibration required to resolve inconsistencies observed following field pumping tests. Work activities included:

- Evaluate field test data to reconcile inconsistencies in pumping system behavior (up to 3 new model revisions).
- Attend field testing and assist in collection of field test data on February 5, 2020 by two Jacobs team members.
- Revise and calibrate effluent pumping hydraulic model to estimate the required TDH at the pump station for the selected pipeline alignment alternative and the design flow projections.
- Reengage pump vendors for revised pump selections.
- Revise Predesign Report Appendix E: Hydraulic Evaluation Technical Memorandum to incorporate field test results and generate recommendations for pumping system upgrades.

- Evaluate existing effluent pipeline air release valve at existing levee crossing and provide recommendation for a new combination air release valve.
- Conduct conference call meeting with City staff on March 5, 2020.
- Develop recommendations for additional City field pump testing.

City Involvement:

- Perform pumping tests and provided resultant flows and pressures for multiple pumping scenarios, up to 3 times.
- Attend and assist in field calibration testing on February 5, 2020.

Assumptions:

- None.

Deliverables:

- Revised Predesign Report Appendix E: Hydraulics Evaluation Technical Memorandum in the final Predesign Report.
- Combination air release valve recommendation for existing levee crossing.
- Recommendations for additional City field pump testing.

Task 1.9 – DO Sag Analysis, Anti-Degradation Analysis, and ROWD

Dynamic Modeling Support

This subtask was developed at the request of the City to support dynamic modeling analyses conducted by Larry Walker & Associates (LWA) with data provided by Jacobs. Dynamic modeling objectives include applying hydraulic modeling results and replacement outfall diffuser design configuration and modeling results developed by Jacobs as inputs to support LWA dynamic modeling of ammonia and copper discharges to the Feather River. Work activities include:

- Develop approaches to pursuing dynamic modeling of ammonia discharges to Feather River through discussions with City. Review of objectives, approach, and inputs required for the dynamic modeling in coordination with LWA.
- Develop and provide the following inputs for dynamic modeling:
    - Draft profile drawing of new river diffuser
    - Summary of replacement diffuser configuration and model inputs (no. ports, spacing, horizontal and diffuser port orientation, port elevation, river bed elevation, effective port diameter, port velocities)
    - CORMIX2 model runs for diffuser at river Section 14.4 (CMX and PRD files)
    - Tideflex hydraulic system analysis for TFD Series 35 check valve ports (HC 733) for full range of effluent flow (existing through buildout) and effective port diameters summary
    - Table summary of river velocities, water depths, and water surface width at Section 14.4 for a wide range of river flows from 1,000 cfs to a 100-yr flood (311,400 cfs) flow
    - River stage/discharge rating curve, and results for river flow and stage that constitutes bank-full condition
- Review the draft dynamic modeling results and technical memorandum developed by LWA and provided by the City for inclusion in the final Predesign Report.
- Incorporate a concise summary of the dynamic modeling results into the body of the final Predesign Report and the complete LWA Dynamic Modeling Technical Memorandum as an appendix.

City Involvement:

- Provide direction and coordination with LWA during development of dynamic modeling.
- Provide coordination of dynamic modeling results with Jacobs.

Assumptions:

- Dynamic modeling results and technical memorandum will be provided to Jacobs by the City in an electronic file format (pdf) and tables in Word format for use in the final Predesign Report.

Deliverables:

- Input files for dynamic modeling to City and LWA in early December 2019.
- Provide review comments to the City.

Task 1.10 – 30% Design Development, Predesign Report, Schedule, and Cost Estimate

This subtask adds two additional design elements to the 30% design and cost estimate. The City requested predesign of a levee ramp for construction traffic access and City operations and maintenance access. This subtask also adds a surge analysis to determine the need for protective measures to protect the existing outfall pipeline and new outfall pipeline extension. Work activities include:

Predesign for Levee Access Ramps

- Develop a 30% design including plan sheet with levee access ramp alignments, grading details and sections, access from Garden Hwy, and security considerations.

Predesign for Surge Control System

- Prepare a transient analysis and model of the existing outfall pipeline and proposed outfall pipeline extension, make recommendations to protect the outfall pipeline against surge, and document the findings and recommendations in a technical memorandum.
- Incorporate an initial surge tank concept description into the final Predesign Report and Appendix B: Design Criteria.

City Involvement:

- Provide direction on which predesign elements will be retained for inclusion in the final Predesign Report and appendixes.

Assumptions:

- No surge control design drawings are included.

Deliverables:

- Construction Access Ramps Plan Sheet including grading details and sections for incorporation in the 30% drawings.
- Surge criteria for incorporation in Appendix B: Design Criteria.
- Appendix D: Transient Analysis Technical Memorandum provided in electronic file format (PDF) and included in the final Predesign Report.

Task 1.11 – Predesign Meetings and Workshops

This subtask adds an additional predesign workshop as requested by the City to review the main predesign elements and to prepare for the City Council meeting that will authorize final design of the project. Work activities include:

Predesign Review Workshop

- Prepare for and attend a predesign workshop at the WWTF on January 30, 2020 to discuss project elements and finalize predesign phase.
- Provide information needed by the City to prepare draft and final staff reports for the City Council meeting that will authorize final design.

City Involvement:

- Provide direction on which predesign elements will be retained for inclusion in the final Predesign Report and appendixes.
- Provide a copy of the draft City Council staff report.

Assumptions:

- None.

Deliverables:

- Inserts for the City Council staff report as requested.
- Meeting summary of predesign workshop.

Task 2. Right of Way Acquisition

This modification reduces the assumed effort for property acquisition for valuation and appraisal review based on the number of parcels anticipated for property acquisition following completion of the project predesign and uses the available budget to support right-of-entry acquisitions, landowner consultation services, and encroachment permit support. Jacobs will provide these additional services up to the limit of the re-allocated budget. There is no change to the original Task 2 budget for this scope change.

Task 2.1.b – Right-of-Entry Agreement from Existing Landowners

BRI will complete a Real Estate Estimate for three parcels to be provided by Jacobs. Real Estate Estimate will be provided by January 9, 2020.

Task 2.2.a – Valuation Services

Reduce the total number of assumed parcels from 6 to 4.

Task 2.2.b – Appraisal Review

Reduce the total number of assumed parcels from 6 to 3.

Task 2.2.c – Acquisition Services

BRI will assist Jacobs with conducting preliminary landowner meetings, encroachment permit support, and Right of Entry support.

City Involvement:

- None.

Assumptions:

- None.

Deliverables:

- Real Estate Estimate for three parcels: State of California Fish and Wildlife, Netherby, and Yokohari.
- Right-of-Entries for four parcels: State of California Fish and Wildlife, Red Hawk Farms, Tahkar, and Yokohari.

Task 4. Environmental Services and Permitting

Task 4.3 – Levee Permit

This amendment adds a new subtask as described below.

Task 4.3.1 - Central Valley Flood Protection Board Hydraulic and Scour Analysis
This subtask was developed in response to the request of the Central Valley Flood Protection Board (Board) to demonstrate water surface elevation changes and any scour effects from the new YC outfall diffuser structure and trap structure in the Feather River floodplain. Hydraulic and bed scour modeling will be conducted in accordance with the Modeling Work Plan that is approved by the Board and USACE, as appropriate. Work activities include:

- Develop a Draft Hydraulic Flood and Scour Modeling Work Plan that is consistent with the USACE River Hydraulics Engineering Manual 1110-2-1416 and other guidance documents, as appropriate. Incorporate 60% design drawings to illustrate the project elements in the river floodplain, limited above grade exposure, and rock protection measures.
- Submit the Draft Hydraulic Flood and Scour Modeling Work Plan to the Board for review prior to initiating detailed modeling.

City Involvement:

- Provide support and coordination with the Board on the Modeling Work Plan submittal.
- Review and comment on draft Modeling Work Plan. City will provide one set of adjudicated comments within two weeks of receiving draft documents.

Assumptions:

- This amendment will add scope and budget for the development of a Draft Hydraulic Flood and Scour Modeling Work Plan that will be communicated to the Board. Hydraulic and bed scour modeling work will be conducted under this task with additional authorized budget from another amendment after final design has been authorized to continue by the City.
- A concise Modeling Work Plan will be reviewed by the Board and USACE. Board and USACE review of modeling plan could lead to additional modeling effort beyond this scope and fee estimate.

Deliverables:

- Hydraulic Flood and Scour Modeling Work Plan (draft and final) in electronic file format (PDF).

Task 4.4 – Other Permits

This subtask is follow-on work to Task 4.4. Original task objectives that are still relevant include obtaining authorization for the in-water geotechnical borings under various state and federal permits and related consultation processes. The original tasks are supplemented with the following:

In-Water Geotechnical Boring Permit Support

- The list of permits for the geotechnical borings are the same as the original scope. Supplemental activities include preparing supplemental information requested by review agencies, including a detailed description of boring equipment and operations (in-water and on land), researching noise impacts of standard penetrometer tests (most research is on pile driving), calculation of in-water noise levels and contours, and analysis of potential impacts to fish.

City Involvement:

- No change from original scope.

Assumptions:

- Jacobs has provided an allowance of $27,100 to support additional information requests. Jacobs will not be obligated to spend more than this allowance.
- The ongoing consultation processes being led by the USACE, Section 408 Program, will not result in any substantial new data requests or new technical studies other than those information requests described above.

Deliverables:

- Biological Technical Memorandum in electronic file format (PDF).

Task 10. Project Management

The purpose of this task is to provide additional project management services for the work added by this amendment as described below to supplement the currently scoped services. All other existing City involvement items, assumptions, and deliverables described in the currently scoped project management services will apply to this work as well. Jacobs will complete additional project management tasks as described below.

Task 10.3 – Project Controls and Invoicing

Jacobs project controls staff will prepare regular internal cost reports for review by the Jacobs Project Manager. Jacobs will also prepare monthly invoices (including subconsultant invoices) and a Project Status Report including progress report narrative, scope change summary, and schedule and budget status for the work added by this amendment.

This subtask also includes scoping for this amendment, including meetings with City staff, and preparing draft and final scope of work and fee estimate.

Task 10.7 – Project Management During Stand-down

Jacobs will perform additional project management tasks during the stand-down period of the Project requested by the City while an advanced treatment evaluation is completed for the WWTF, between the completion of the Predesign Phase and authorization of the 60% Design Phase. Work activities include the following:

- Additional email and phone coordination with City during the stand-down period.
- Additional team coordination for authorized activities to continue during the stand-down period.
- Conduct re-chartering meeting with project team following the stand-down period.
- Update the project schedule included in the final Predesign Report (Section 10).

City Involvement:

- Provide approval regarding which project activities are to continue during the stand-down period.
- Provide direction to Jacobs regarding timing and completion of stand-down period.

Assumptions:

- Stand-down period is anticipated to last 9 months from March 2020 through November 2020.

Deliverables:

- Updated project schedule to be completed following completion of the stand-down period.

Task 12. Supplemental Services

Jacobs will complete the following additional supplemental services as described below.

Task 12.1 – Bathymetric Surveys in 2019, 2020, and 2021

This amendment adds the following services to the Bathymetric Surveys in 2020 and 2021:

- The original project scope envisioned bathymetric surveys in 2019, 2020, and 2021 to be completed in the fall when Feather River flows were at the lowest for the year, thus minimizing the river surface area to be surveyed. The City and Jacobs agreed to complete the 2019 supplemental survey during the spring season in order to incorporate survey data into the project predesign.
- Subsequent surveys in 2020 and 2021 are also intended to be completed during the spring season. Additional budget is provided for each annual survey for either river flows between 3,000 cfs and 5,000 cfs ($2,500), or an additional allocation for river flows above 5,000 cfs ($4,800). These additional costs are offset by $2,100 of remaining budget not utilized for in-river instrument maintenance.

Task 12.5 – WWTF Effluent Pump Station, Flow Metering and Yard Piping Modifications

This subtask updates the existing optional Task 12.5 following completion of the final Predesign Report. The City has authorized Jacobs (under optional Task 12.5) to complete the WWTF Effluent Pump Station, Flow Metering, and Yard Piping modifications including final design and bid services. As part of the predesign phase, evaluation of the City's existing WWTF effluent pumping system recommended that three existing pumps be replaced. The original scope of work assumed up to 6 drawings – following completion of predesign the drawing list was revised to add an additional 7 drawings, some of which will be shared with the new surge control system. This amendment adds predesign for the additional drawings described in the Predesign Report for WWTF effluent pump station modifications.

City Involvement:

- Review 30% design descriptions in the Predesign Report and cost estimate and provide review comments.

Assumptions:

- Another amendment will fund development of 60%, 90% and 100% design drawings, specifications, cost estimate, and quality control review.

Deliverables:

- Description of planned effluent pumping station modifications in Predesign Report.

Project Schedule

The start date for delivery of the activities described in this amendment is controlled by the approval of the project predesign by the City Council. The activities described above will delivered on a schedule that is mutually agreeable to the City and Jacobs.

Rates and Fees for Engineering Services

The estimated fee for the proposed engineering services is shown in Appendix B and is based on the rates as contracted for the City's Outfall and Diffuser Project.

Appendix A
Updated Drawing List

Appendix A – Updated Drawing List

Sheet Number	Drawing Number	Description	Originally Scoped Sheets	Delivered 30%	Final Design Total	Notes
General			**12 Sheets**	**10 Sheets**	**12 Sheets**	
1	G-1	Cover Sheet, Vicinity and Location Maps	X	X	X	
2	G-2	Sheet List	X	X	X	
3	G-3	Design Data Tables	X	X	X	
4	G-4	Abbreviations	X	X	X	
5	G-5	Civil Legend and Notes	X	X	X	
6	G-6	General Structural Notes	X	X	X	
7	G-7	Mechanical Legend	X	X	X	
8	G-8	Electrical Legends and Abbreviations	X	X	X	
9	G-9	Instrumentation and Control Legend	X	X	X	
10	G-10	Key Plan and Survey Control	X	X	X	
11	G-11	Hydraulic Profile	X		X	
12	G-12	Construction Access	X		X	
Plan and Profile			**8 Sheets**	**12 Sheets**	**12 Sheets**	
13	PP-1	Plan and Profile STA 10+00 To 20+00	X	X	X	
14	PP-2	Plan and Profile STA 20+00 To 30+00	X	X	X	
15	PP-3	Plan and Profile STA 30+00 To 40+00	X	X	X	
16	PP-4	Plan and Profile STA 40+00 To 50+00	X	X	X	
17	PP-5	Plan and Profile STA 50+00 To 60+00	X	X	X	
18	PP-6	Plan and Profile STA 60+00 To 70+00	X	X	X	
19	PP-7	Plan and Profile STA 70+00 To 80+00	X	X	X	
20	PP-8	Plan and Profile STA 80+00 To 90+00	X	X	X	
21	PP-9	Plan and Profile STA 90+00 To 100+00		X	X	Funded by Contingency Dwg #1.
22	PP-10	Plan and Profile STA 100+00 To 110+00		X	X	Funded by Contingency Dwg #2.
23	PP-11	Plan and Profile STA 110+00 To POE		X	X	Funded by Contingency Dwg #3.
24	PP-12	Feather River Diffuser Site Plan and Restoration Plan		X	X	Funded by Contingency Dwg #4.
Civil			**12 Sheets**	**8 Sheets**	**14 Sheets**	
25	C-1	Bifurcation Vault Site Plan and Details	X		X	
26	C-2	Vacuum-Assisted Siphon System Building Site Plan			X	Funded by Task 12.3 Dwg.
27	TBD	Feather River Diffuser Site Plan and Restoration Plan	X		X	

Sheet Number	Drawing Number	Description	Originally Scoped Sheets	Delivered 30%	Final Design Total	Notes
28	C-3	Pipeline Cross Sections 1 Of 2	X		X	
29	C-4	Pipeline Cross Sections 2 Of 2	X		X	
30	C-5	Construction Access Ramps Site Plan		X	X	Funded by Future Amendment.
31	TBD	Construction Access Ramps Sections			X	Funded by Future Amendment.
32	TBD	Construction Access Ramps Details			X	Funded by Future Amendment.
33	TBD	Construction Access Ramps Details			X	Funded by Future Amendment.
34	C-6	Levee Crossing Plan	X	X	X	MHM Drawing.
35	C-7	Levee Crossing Section	X	X	X	MHM Drawing.
36	C-8	Levee Crossing Details - Pipe Backfill	X	X	X	MHM Drawing.
37	C-9	Levee Crossing Details - Pipe Connections	X	X	X	MHM Drawing.
38	C-10	Levee Crossing Details - Valve Vault	X	X	X	MHM Drawing.
39	C-11	Levee Crossing Details - Access Cover	X	X	X	MHM Drawing.
40	C-12	Levee Crossing Details - Miscellaneous 1	X	X	X	MHM Drawing.
41	C-13	Levee Crossing Details - Miscellaneous 2	X		X	MHM Drawing.
Structural/Mechanical			**5 Sheets**	**7 Sheets**	**8 Sheets**	
42	SM-1	Bifurcation Station Plan	X	X	X	
43	SM-2	Bifurcation Station Sections	X	X	X	
44	SM-3	Feather River Diffuser Plan and Sections	X	X	X	
45	SM-4	Feather River Diffuser Details 1 Of 2	X	X	X	
4	SM-5	Feather River Diffuser Details 2 Of 2	X		X	
47	SM-6	Vacuum-Assisted Siphon – Building Plan		X	X	Funded by Task 12.3 Dwg.
48	SM-7	Vacuum-Assisted Siphon – Building Sections		X	X	Funded by Task 12.3 Dwg.
49	SM-8	Primer Trap Structure Plans and Sections		X	X	Funded by Contingency Dwg #5.
Electrical			**2 Sheets**	**1 Sheet**	**6 Sheets**	
50	E-1	Bifurcation Station Site Plan			X	Funded by Contingency Dwg #6.
51	E-2	Vacuum-Assisted Siphon Site Plan			X	Funded by Contingency Dwg #7.
52	E-3	One-line Diagrams	X	X	X	Updated One-line funded by Task 12.3 Dwg. Sheet originally scoped for Bifurcation Station.
53	E-4	Bifurcation Station Power Plan	X		X	
54	E-5	Vacuum-Assisted Siphon Electrical Power Plan			X	Funded by Task 12.3.
55	E-6	Panel Board Schedules and Conduit/Conductor Schedules			X	Funded by Contingency Dwg #8.

Sheet Number	Drawing Number	Description	Originally Scoped Sheets	Delivered 30%	Final Design Total	Notes
Instrumentation and Control			**3 Sheets**	**2 Sheets**	**4 Sheets**	
56	IC-1	P&ID Bifurcation Station	X	X	X	
57	IC-2	P&ID Vacuum-Assisted Siphon		X	X	Funded by Task 12.3 Dwg.
58	IC-3	Network Block Diagram	X		X	
59	IC-4	Control Panel Typical Wiring Diagrams	X		X	
Traffic Control			**8 Sheets**	**0 Sheets**	**8 Sheets**	
60	TC-1	Legend and General Notes	X		X	
61	TC-2	Traffic Control and Restoration Plan	X		X	
62	TC-3	Traffic Control and Restoration Plan	X		X	
63	TC-4	Traffic Control and Restoration Plan	X		X	
6	TC-5	Traffic Control and Restoration Plan	X		X	
65	TC-6	Lane Closure with Flagger Control Plan	X		X	
66	TC-7	Sections and Details 1 Of 2	X		X	
67	TC-8	Sections and Details 2 Of 2	X		X	
Standard Details			**6 Sheets**	**4 Sheets**	**8 Sheets**	
68	SD-1	Standard Details	X	X	X	
69	SD-2	Standard Details	X	X	X	
70	SD-3	Standard Details	X	X	X	
7	SD-4	Standard Details	X	X	X	
72	SD-5	Standard Details	X		X	
73	SD-6	Standard Details	X		X	
74	SD-7	Standard Details			X	Funded by Task 12.3.
75	SD-8	Standard Details			X	Funded by Task 12.3 Contingency #1 Dwg.
WWTF Effluent Pump Station, Flow Metering and Yard Piping Modifications + Surge Control System			**6 Sheets**	**0 Sheets**	**24 Sheets**	
1	G-13	WWTF Construction Coordination Plan			X	Funded Future Amendment. Counted as one of the 11 Surge Sheets.
2	C-14	WWTF Pump Station and Surge Control System Site Plan	X		X	Funded by Task 12.5. Shared WWTF/Surge Dwg. Counted as one of the 7 additional WWTF Sheets.
3	C-15	Surge Control System Site Grading and Survey Control			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
4	C-16	WWTF and Surge Control System Yard Piping Plan	X		X	Funded by Task 12.5. Shared WWTF/Surge Dwg. Counted as one of the 7 additional WWTF Sheets.

Sheet Number	Drawing Number	Description	Originally Scoped Sheets	Delivered 30%	Final Design Total	Notes
5	C-17	WWTF and Surge Control System Yard Piping Details			X	Funded by Future Amendment. Shared WWTF/Surge Dwg. Counted as one of the 11 Surge Sheets.
6	D-1	WWTF Demolition #1			X	Funded by Future Amendment.
7	SM-9	WWTF Pump Station Plan	X		X	Funded by Task 12.5.
8	SM-10	WWTF Pump Station Sections and Details	X		X	Funded by Task 12.5.
9	SM-11	Surge Control Tank Plan			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
10	SM-12	Surge Control System Sections			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
11	SM-13	Surge Control System Details			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
12	E-7	Overall Electrical Site Plan			X	Funded by Future Amendment. Counted as one of the 7 additional WWTF Sheets.
13	E-8	WWTF Pump Station Electrical Site Plan	X		X	Funded by Task 12.5.
14	E-9	Surge Control System Electrical Site Plan			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
15	E-10	WWTF Effluent Pump Station Plan			X	Funded by Future Amendment.
16	E-11	WWTF Pump Station and Surge Control System One-Line Diagrams	X		X	Funded by Task 12.5. Shared WWTF/Surge Dwg. Counted as one of the 7 additional WWTF Sheets.
17	E-12	WWTF Pump Station and Surge Control System MCC Elevations			X	Funded by Future Amendment. Counted as one of the 7 additional WWTF Sheets.
18	E-13	WWTF Pump Station and Surge Control System Panel Board Schedules and Conduit/Conductor Schedules			X	Funded by Future Amendment. Counted as one of the 7 additional WWTF Sheets.
19	E-14	WWTF Pump Station and Surge Control System Wiring Diagrams			X	Funded by Future Amendment. Counted as one of the 7 additional WWTF Sheets.
20	IC-5	P&ID WWTF Effluent Pump Station			X	Funded by Future Amendment.
21	IC-6	P&ID Surge Control System			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
22	IC-7	Control Panel Wiring Diagrams			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.

Sheet Number	Drawing Number	Description	Originally Scoped Sheets	Delivered 30%	Final Design Total	Notes
23		Contingency 1			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
24		Contingency 2			X	Funded by Future Amendment. Counted as one of the 11 Surge Sheets.
Contingency Drawings			***8 Sheets***	***8 Sheets***	***8 Sheets***	
1	PP-9	Contingency Drawing 1	X	X	X	Used by PP-9.
2	PP-10	Contingency Drawing 2	X	X	X	Used by PP-10.
3	PP-11	Contingency Drawing 3	X	X	X	Used by PP-11.
4	PP-12	Contingency Drawing 4	X	X	X	Used by PP-12.
5	SM-8	Contingency Drawing 5	X	X	X	Used by SM-8.
6	E-1	Contingency Drawing 6	X	X	X	Used by E-1.
7	E-2	Contingency Drawing 7	X	X	X	Used by E-2.
8	E-6	Contingency Drawing 8	X	X	X	Used by E-6.

Appendix B
Fee Estimate

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT WWTF Outfall and Diffuser	2018 2019 2020 2021 2022 2023 PDC	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Amendment 02 - Item 2A - Predesign Follow-up Work										
Task 1 - Predesign										
Subtotal - Subtask 1.5.b - Effluent Pumping System Testing Support		185	$ 30,721	$ 200	$ -	$ -	$ 20	$ -	$ 220	$ 30,941
Subtotal - Subtask 1.9 - LWA Dynamic Modeling		33	$ 6,377	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,377
Subtotal - Subtask 1.10 - Pre-Design Report		18	$ 3,780	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,780
Subtotal - Subtask 1.11 - Predesign Meetings and Workshops		55	$ 9,907	$ 100	$ 150	$ -	$ 25	$ -	$ 275	$ 10,182
Subtotal - Subtask 1.10 - Pre-Design Levee Access Ramp		71	$ 11,984	$ -	$ -	$ 500	$ -	$ 25	$ 525	$ 12,509
Subtotal - Subtask 1.10 - Predesign Surge Control System		45	$ 7,969	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,969
Task 4 - Permitting										
Subtotal - Subtask 4.3.1 - CVFPB Hydraulic and Scour Analysis		33	$ 7,994	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,994
Subtotal - Subtask 4.4 - In-River Geotechnical Boring Permitting Support		136	$ 27,059	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,059
Task 10 - Project Management										
Subtotal - Subtask 10.3 - Project Controls and Invoicing		158	$ 25,819	$ 200	$ -	$ -	$ 20	$ -	$ 220	$ 26,039
Subtotal - Subtask 10.7 - Project Management Stand-down		71	$ 11,985	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,985
Task 12 - Supplemental Services										
Subtotal - Task 12.1 - Bathymetric Surveys in 2020 and 2021		-	$ -	$ -	$ -	$ 8,000	$ -	$ 400	$ 8,400	$ 8,400
Subtotal - Task 12.5 - WWTF Pump Station, Flow Metering, and Yard Piping Modification		87	$ 15,744	$ 200	$ 500	$ -	$ 70	$ -	$ 770	$ 16,514
PreDesign Follow Up Task Hours		892.0	$ 159,339							
PreDesign Follow Up Task Budget		892.0	$ 159,339	$ 700	$ 650	$ 8,500	$ 135	$ 425	$ 10,410	$ 169,749

Attachment 2B: City of Yuba City WWTF Advanced Treatment Study Scope of Work and Fee Estimate

Yuba City WWTF Outfall and Diffuser Project
Amendment 2: Item 2B
Advanced Treatment Study
Scope of Work

Following completion of the Yuba City Wastewater Treatment Facility (WWTF) Outfall and Diffuser Predesign, the City met with Jacobs on March 6, 2020 to discuss an alternative surface water discharge strategy (i.e., side-bank discharge) and potential ramifications to the WWTF. Several alternative treatment approaches were discussed at the meeting along with current challenges imposed by the Sunsweet discharge, its impact on existing WWTF processes, and the inability of the existing pure oxygen activated sludge process to meet more stringent effluent discharge limits if imposed in the future. The alternatives discussed at the meeting were based on projected effluent limits developed by Larry Walker and Associates (LWA) for a potential side-bank discharge located near the City's existing diffuser at the Shanghai Falls in the Feather River. The projected effluent limits were provided by the City in a draft Technical Memorandum (TM) dated March 4, 2020.

Background

WWTF staff have elected to conduct an advanced treatment study to validate their current WWTF improvement and regulatory compliance strategy. At the completion of the WWTF Outfall and Diffuser predesign phase the City has opportune time for conducting this study given the potential need to invest $35 million to construct the Outfall and Diffuser Project. The study will compare relative costs, advantages and disadvantages for continued operation of the WWTF (as configured currently) with one or two alternative configurations. These configurations were limited to meeting the projected nitrogen and nitrite limits of 2.1 and 1.0 mg-N/L reported in the TM and were to be based on more traditional, proven technologies. Additional projected side-bank effluent discharge requirements and treatment alternatives can be considered and reviewed in more depth as part of a subsequent, alternative development and comparison effort, if desired by WWTF staff. An action item developed at the March 6, 2020 meeting was for Jacobs to review the existing WWTF process facilities, existing information and data, and develop an outline and scope of work for an advanced treatment study.

The City is interested in comparing continued operation of the pure oxygen activated sludge process and associated future investments with one or two alternative treatment technologies suitable for meeting more stringent effluent quality requirements projected for a side-bank discharge:

1. Develop one or two alternative approaches to upgrade the existing WWTF to meet proposed effluent limits for a side-bank discharge near the City's existing diffuser at the Shanghai Falls in the Feather River. The proposed effluent limits were provided by the City in a draft TM prepared by LWA and dated March 4, 2020. Only the projected ammonia and nitrite limits will be considered at this time. Other constituents and treatment alternatives could be considered as part of a subsequent, more in-depth effort.
2. List and leverage estimated costs for capital improvement program projects[1] which can be avoided by alternative approaches such as the addition of a 3rd digester, 4th secondary clarifier

[1] Cost estimates developed by others or obtained from readily available sources (i.e., draft WWTF master plan, BACWA and Echo Water).

and new PSA system, rotary drum WAS thickener and digested gas flare. Majority of this cost information will be obtained and copied from the Draft Wastewater Master Plan (April 2020).

3. Provide rough order of magnitude comparison with current approach (i.e., continued use of pure oxygen activated sludge process and installation of new river diffuser).

Purpose

Document the scope of work, schedule and estimated fee to complete the WWTF Advanced Treatment Study. The study will leverage past, readily available information and data to describe the historic issues related to pollutant loading from the Sunsweet processing facility, its impact on wastewater treatment operation and develop an alternative treatment facilities configuration for evaluation and comparison of relative capital, operating and maintenance (O&M) and net present worth costs, and other identified criteria. Alternative treatment approaches will be combined with a side-bank outfall and compared to current technology (i.e., continued Sunsweet discharge into sewer, use of pure oxygen activated sludge process, and new outfall pipeline extension and river diffuser as described in WWTF Outfall and Diffuser Predesign Report).

Tasks 1, 2 and 3 describe the scope of work for the advanced treatment study.

Task 1. Project Development Assistance

Jacobs will assist the City in developing and defining the WWTF Advanced Treatment Study project. Services provided in this task include:

- Attend project development meeting at WWTF (attended by up to three Jacobs team members)
- Review background documents and studies relevant to project development and definition.
- Prepare draft outlines for project scope of work.
- Attend conference calls with City staff to review draft outlines and to assist in project definition.

City Involvement:

- Provide background documents and studies relevant to project development and definition.
- Review and comment on draft versions of project scope of work outlines.
- Attend meeting at WWTF and conference calls.
- Approve final project scope of work outline.

Assumptions:

- Up to 3 conference calls of 1.5 hours each.
- Up to 4 draft versions of project scope of work outline.

Deliverables:

- Draft outlines for project scope of work.
- Final project scope of work.

Task 2. WWTF Advanced Treatment Study

Compare relative advantages, disadvantages and rough order of magnitude capital, O&M and net present worth costs for the following alternatives:

- Current Technology – Continued use of existing pure oxygen activated sludge process and install new river diffuser as described in the final WWTF Outfall and Diffuser Predesign Report. Represents 10.5 MGD average dry weather flow (ADWF) capacity as described in the current discharge permit.
- Alternative 1. Addition of nitrogen removal process downstream of the existing treatment facility. Review Sunsweet waste stream characteristics, develop recommended handling and treatment approach and include in Alternative 1.
- Alternative 2. Biological nutrient removal process in place of existing pure oxygen biological treatment. Review Sunsweet waste stream characteristics, develop recommended handling and treatment approach and include in Alternative 2.

Total project cost will include advanced treatment improvements as well as the new side-bank discharge and associated outfall pipeline. Conceptual design of the outfall pipeline and side-bank discharge is described in Task 2.3 below.

Considerations to be addressed in the study:

- The City cannot nitrify/denitrify in existing pure oxygen activated sludge reactors.
- If the City converts to a Biological Nutrient Removal process, the existing reactors could be used as anoxic zone or repurposed for other uses (e.g., Sunsweet load equalization tank).
- There is potential to segregate, separately convey and treat Sunsweet influent waste stream at Sunsweet or/and at the WWTF. Determine whether the stream can be used to increase methane production within the existing digesters and/or as a carbon source for Biological Nutrient Removal process (BNR) based on readily available data and information provided by the City.
- If Sunsweet were to stop operation and discharge to the WWTF or segregate their waste stream, there is potential to repurpose aeration tanks to treat the remaining residential and commercial wastewater stream.
- Review historic raw wastewater influent characterization data, and more specifically temperature, to determine if the influent appears to be warmer than typical ranges, and if so, determine its relative impact on process sizing and estimated construction costs.

Task 2.1 – Review Existing Studies, Data and Other Information

At a minimum, Jacobs will request and review the following documents in a Request for Information (RFI).

- Draft Wastewater Master Plan Update dated April 2020 already provided to Jacobs in pdf format.
- Historic (last 3 years) WWTF operating costs broken down into labor (operations, maintenance), power, chemical and other consumables in electronic MS Excel format.
- Historic (last 3 years) of raw wastewater influent characteristics (i.e., Total influent and Sunsweet flows and pollutant concentrations), operating and monitoring data, and effluent quality data in electronic MS Excel format.
- Responses to Jacobs questions and comments to the LWA TM, City of Yuba City Reasonable Potential Analysis and Effluent Limits Re-Calculation and Final LWA TM.

- Historic (last 3 years) of Sunsweet historic flows, pollutant concentrations and sampling and laboratory analysis results in MS Excel format. The data Jacobs currently has is limited to the Industrial Pretreatment Technical Memorandum (HDR, January 15, 2001), May 15-21, 2019 TKN sampling results and January 2018 through February 2019 Sunsweet Discharge flow, pH, total suspended solids (TSS) and biochemical oxygen demand (BOD).
- Conduct conference calls to review project data requests and data utilization

C**ity Involvement:**

- Provide additional information pertaining to Sunsweet discharge and WWTF impacts.
- Facilitate consultation with WWTF operations staff regarding effluent pumping and outfall operations and addressing Jacobs comments, issues and concerns associated with new side-bank outfall.

Assumptions:

- Projected flows and loads from the master plan update will be used as the basis of the assessment.
- Up to 3 conference calls of 1.5 hours each

Deliverables:

- Summarize, in tabular format, past information and data to be leveraged for this assessment, how it will be applied and limitations.
- Identification of data gaps and additional information required to further alternative treatment and regulatory compliance strategies to a preliminary design level.

Task 2.2 – Sunsweet Characterization and Recommended Handling Option

Jacobs will review past Sunsweet influent characterization and pretreatment data provided by the City and evaluate options to treat and handle the Sunsweet waste stream. The following is a listing and description of the proposed steps/activities:

A. Determine daily flows, seasonal flow variations, discharge hours and flow rates, Sunsweet's contractual discharge capacity, ability to equalize and control sewer discharge, as well as current discharge practices. Historic data will be reviewed by Jacobs and supplemented by information provided by Sunsweet through a questionnaire.

B. Evaluate potential Sunsweet discharge mitigation measures based on the alternatives considered in the Industrial Pretreatment Technical Memorandum. Evaluation will be limited to the following considerations: (1) separate treatment at Sunsweet or the WWTF, (2) solids separation with solids diverted to existing WWTF digesters (3) Sunsweet discharge diversion to digester, (4) storing Sunsweet discharge and re-distributing load to WWTF influent stream, (5) use of Sunsweet discharge stream as a carbon source for BNR process and (6) repurposing Sunsweet WWTF facilities due to Sunsweet ceasing discharge. Evaluate and summarize the technical feasibility of each of the configurations described, potential impacts and benefits to the liquid treatment process (e.g., added revenue). Recommend a single Sunsweet discharge handling method based on the evaluation results and incorporate into Task 2.4.

Jacobs will present recommended Sunsweet discharge handling method and the preliminary evaluation to the City by conference call, and the City will select a preferred configuration to be carried forward into the alternative wastewater facilities configuration described in Task 2.4.

City Involvement:

- Communicate and coordinate Sunsweet questionnaire.

Assumptions:

- No additional sampling of Sunsweet discharge is assumed for this study.
- For completeness, Jacobs will include and briefly describe Onsite Sunsweet Treatment (eliminate discharge to WWTF) alternative, but limit level of effort for this alternative by:
    - Describing (footnoting) how the Segregate and Treat Sunsweet Discharge at WWTF alternative would be different than the Onsite Sunsweet Treatment alternative (e.g., in comparison table footnote that force main and pump station would be not be needed along with other differences)
    - Include other relative advantages and disadvantages in the Onsite Sunsweet Treatment alternative description (e.g., free up capacity in collection system and WWTF).

Deliverables:

- Draft and final Sunsweet questionnaires.
- Draft and final presentation materials for one conference call, see Task 3.1 below.

Task 2.3 – Outfall Pipeline and Side-Bank Discharge Location Development

In this task Jacobs will provide written comments to LWA TM then, once LWA responses are received, develop up to three alternative locations for a new side bank discharge, taking into consideration river hydraulics, geomorphology, river bank stability, and length of new effluent pipeline to the new outfall structure. Jacobs will estimate conceptual level costs for construction, permitting, and soft costs.

Jacobs will present the identified alternatives and the preliminary evaluation to the City by conference call and the City will select a preferred alternative to be carried forward into the alternative wastewater facilities configuration described in Task 2.4.

City Involvement:

- Coordinate LWA responses to Jacobs' Technical Memorandum comments.
- Select preferred side-bank discharge location and outfall pipe alignment.

Assumptions:

- Side bank discharge will be based on a submerged free-pipe end with a check valve and pile supports located downstream of the Shanghai Falls. No other discharge configuration options will be developed or estimated.
- Outfall pipe and discharge concept will be based on buildout peak hour flow.
- Viability of side-bank discharge permit approval with the RWQCB will be determined by the City. Conceptual design of side-bank discharge included in this task does imply or guarantee approval by the RWQCB.

Deliverables:

- Written comments pertaining to LWA Technical Memorandum.
- Narrative of alternative discharge locations and preferred alternative will be included in draft and final advanced treatment study technical memorandum.
- Map figure of 3 alternative bank locations and outfall pipeline alignments.
- Class 5 construction cost estimate, including permitting and operation, for new bank side discharge.

- Draft and final presentation materials for one conference call, see Task 3.1 below.

Task 2.4 – Alternative Development and Comparison with Current Technology

Develop alternative wastewater facilities configuration for:

Baseline: Constructing new proposed diffuser assuming regulations will stay the same,

Alternative 1: Add-on treatment downstream of existing treatment process (nitrification/denitrification), and

Alternative 2: Biological nutrient removal process using Modified Ludzack-Ettinger (MLE) Process.

Treatment processes are sized for the rated 10.5 MGD ADWF capacity and targeting BACWA Level 2 (2 mg/L ammonia, 15 mg/L TN) for treatment goals, which appears suitable to meet project ammonia requirements projected for side-bank discharge. Jacobs will compare the alternative treatment facilities configurations and current technology then prepare a brief technical memorandum summarizing comparison findings, results and recommendations. For each alternative, a sub-alternative to separately handle Sunsweet waste stream is considered, based on the findings from Task 2.2. Discuss how each alternative can be impacted if Sunsweet were to shutdown in the future. Qualitatively discuss expandability of each alternative for increased flows and loads from new growth to the WWTF. The TM is anticipated to be less than 5 pages in length, and include process flow schematics illustrating proposed alternative treatment concepts and approaches, a table summarizing comparison results and capital, O&M and net present worth costs.

Assumptions:

- Nitrogen, and its forms (i.e., ammonia, nitrite + nitrate and total nitrogen) will be the primary focus of the study and comparison. Limits for other constituents listed in the March 4, 2020 LWA TM will not be considered at this time but may be considered later if desired.
- Capital and O&M costs to be derived from unit costs readily available information obtained from the Nutrient Reduction Study (BACWA, June 22, 2018) for Level 2 treatment (e.g., $12.1/gal capital cost); potentially with some adjustments made by Jacobs to address WWTF-site specific conditions and configuration (e.g., pumping).
- Typical, proven technologies (e.g., conventional diffused fine bubble aeration and blowers) to be used as the basis for unit costs, not innovative less proven technologies (e.g., Invent aerator/mixers). However, innovative options can be described in the study report (without costs).
- City will provide one set of adjudicated comments on draft technical memorandum within three weeks of receipt.

Deliverables:

- Draft and final technical memorandum for City review and comment.
- Draft and final Workshop agenda and review materials.

Task 3. Project Management

JACOBS will complete project management tasks as outlined below. The budget assumes that overall project scope is as defined in the preceding Tasks.

Task 3.1 – External Project Meetings

JACOBS will attend the following project meetings with City staff:

- Project Kickoff Meeting at the WWTF. Jacobs will prepare meeting agenda, presentation materials and meeting summary.
- Biweekly Conference Call Progress Meetings. Meeting attendance will mostly be limited to Jacobs and City project managers.
- Up to 5 Conference Calls total for Tasks 2.1, 2.2, and 2.3.
- Workshop 1 Comparison of Alternatives and Recommended Alternative

City Involvement:

- Review agendas and minutes from project progress meetings and alert Jacobs project manager of any questions or corrections.

Assumptions:

- Meeting dates and times and method (in-person or by conference call) will be as agreed to between Jacobs and the City and will be subject to travel restrictions implemented by either party or by federal, state, or local public meeting limitations.
- Up to 6 biweekly Progress Meetings between July 2020 and September 2020.

Deliverables:

- Conference call and Workshop agenda and meeting summaries.

Task 3.2 – Develop and Maintain Project Management Tools

JACOBS will prepare and maintain the following project management tools:

- Project Execution Plan (PXP)
- Quality Management Plan (QMP)
- Risk Register
- Work Plans
- Decision Log

Task 3.3 – Project Controls and Invoicing

JACOBS project controls staff will prepare regular internal cost reports for review by the Jacobs Project Manager. Jacobs will also prepare monthly invoices and a Project Status Report including progress report narrative, scope change summary, and schedule and budget status. Monthly invoices Project Status Reports will be submitted to the City Project Manager for review and approval.

City Involvement:

- Review and approve monthly invoice and project status report.

Assumptions:

- Assumes 3 months of project cost reports, monthly invoices, and progress reports
- Budget status burn charts are not included

Deliverables:

- Monthly invoices and Project Status Reports

Task 3.4 – Project Team Coordination

Jacobs will conduct the following internal team coordination activities:

- Project Team Kickoff Meeting
- Regular project team coordination meetings

Task 3.5 – Health and Safety

Jacobs will conduct internal Health and Safety (H&S) procedures to manage the safety of our staff. Health and safety activities will include:

- Preparation and management of Field Safety Instructions for field trips to the WWTF
- Monitor Jacobs staff and subconsultant compliance with the Field Safety Instructions

Deliverables:

- Copies of the Jacobs Field Safety Instructions are available for review by the City upon request

Task 4. Owner Authorized Supplemental Services

This task adds additional budget for owner authorized supplemental services and will only be utilized upon receipt of written approval by the City Project Manager. Upon request for supplement services, Jacobs will prepare a scope of work and fee estimate for review and approval by the City and will only spend up to the authorized budget amount, unless otherwise approved by the City Project Manager. The budget established in this task is an allowance. Because the exact scope of supplemental services is not known, Jacobs is not obligated to spend more than the budget included in this allowance.

City Involvement:

- Request supplement services as needed.
- Review and approve draft scopes of work and fee estimates for supplemental services.

Assumptions:

- The budget for this task is an allowance.

Deliverables:

- As requested by the City and agreed to in approved scope of work and fee estimate.

Schedule

Table 1 presents a summary of the project schedule along with key client meetings, conference calls, and submittal dates.

Table 1. Schedule for WWTF Advanced Treatment Study Project

Task/Activity	Milestone / Submission Date
Notice to Proceed (City, assumed date)	July 15, 2020
Kick-off Meeting[1]	July 29, 2020
WWTF Staff submit questionnaire to Sunsweet	August 7, 2020
Sunsweet response (assumed)	August 28, 2020
Task 2.1 Conference Call (summarize past info, data, & gaps)	
Task 2.2 Sunsweet handling alternatives	September 7, 2020
Task 2.3 Effluent outfall concepts	
Task 2.4 Workshop	September 17, 2020
Draft Technical Memorandum (TM)	September 25, 2020
Client Consolidated TM Review Comments	October 14, 2020
Final TM	November 4, 2020

1. Draft Sunsweet questionnaire submitted with draft agenda and meeting materials.

Rates and Fees For Engineering Services

The estimated fee for the proposed engineering services is shown in Appendix A and is based on the rates as contracted for the City's Outfall and Diffuser Project.

Appendix A
Fee Estimate

Item 2B - City of Yuba City WWTF Advanced Treatment Study
APPENDIX A. JACOBS FEE ESTIMATE

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT WWTF Outfall and Diffuser	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Amendment 02 - Item 2B - City of Yuba City WWTF Advanced Treatment Study									
Task 1 - Project Development Assistance	57	12,088	-	-	-	-	-	-	12,088
Subtotal - Task 1. Project Development Assistance	57	12,088	-	-	-	-	-	-	12,088
Task 2 - Advanced Wastewater Treatment Study	251	53,561	-	100	-	10	-	110	53,671
Subtotal - Subtask 2.1 - Review Existing Studies, Data, and Other Information	32	5,932	-	-	-	-	-	-	5,932
Subtotal - Subtask 2.2 - Sunsweet Characterization and Recommended Handling Option	68	15,532	-	-	-	-	-	-	15,532
Subtotal - Subtask 2.3 - Outfall Pipeline and Side-bank Discharge Location Concept Development	61	12,187	-	-	-	-	-	-	12,187
Subtotal - Subtask 2.4 - Alternative Development and Comparison with Current Technology	90	19,910	-	100	-	10	-	110	20,020
Task 3 - Project Management	70	14,355	593	-	-	59	-	652	15,007
Subtotal - Subtask 3.1 - External Project Meetings	32	7,214	593	-	-	59	-	652	7,866
Subtotal - Subtask 3.2 - Develop and Maintain PM Tools	6	1,010	-	-	-	-	-	-	1,010
Subtotal - Subtask 3.3 - Project Controls and Invoicing	18	2,811	-	-	-	-	-	-	2,811
Subtotal - Subtask 3.4 - Project Team Coordination	12	2,824	-	-	-	-	-	-	2,824
Subtotal - Subtask 3.5 - Health and Safety	2	496	-	-	-	-	-	-	496
Task 4 - Owner Authorized Supplemental Services	187	39,270	-	-	-	-	-	-	39,270
Subtotal - Task 4. Owner Authorized Supplemental Services	187	39,270	-	-	-	-	-	-	39,270
Advanced Treatment Study Task Budget	565	$ 119,274	$ 593	$ 100	$ -	$ 69	$ -	$ 762	$ 120,037

Yuba City WWTF Outfall and Diffuser Project
Contract Budget Authorization
City of Yuba City

Task	Proposed Contract Budget Amount	Original Authorized Amount and Date (7/11/18)	Amendment 1 Authorized Amount and Date (9/19/19)	Original + Amendment 1	Amendment 2 Authorized Debit Amount and Date (TBD)	Amendment 2 Authorized Credit Amount and Date (TBD)	Total Authorized Amount Amount To-Date
Task 1 - Predesign	$821,864	$821,864	$87,540	$909,404	$0	$71,758	$981,162
Task 2 - ROW Acquisitions	$185,305	$185,305	$0	$185,305	$0	$0	$185,305
Task 3 - Design	$570,155	$570,155	$0	$570,155	-$289,786	$0	$280,369
Task 4 - Enviromental Services/Permitting	$254,423	$254,423	$0	$254,423	$0	$35,053	$289,476
Task 5 - Bid Services	$57,819	$57,819	$0	$57,819	$0	$0	$57,819
Task 6 - Services During Construction	$239,751	$0	$0	$0	$0	$0	$0
Task 7 - Testing and Startup	$177,897	$0	$0	$0	$0	$0	$0
Task 8 - Construction Management	$458,476	$0	$0	$0	$0	$0	$0
Task 9 - Operations and Maintenance Manual	$21,362	$0	$0	$0	$0	$0	$0
Task 10 - Project Management	$503,617	$344,301	$10,294	$354,595	$0	$38,024	$392,619
Task 11 - CA SRF Loan Application Support	$50,000	$50,000	$0	$50,000	$0	$0	$50,000
Task 12 - Supplement Services	$499,564	$499,564	$65,043	$564,607	$0	$24,914	$589,521
Task 13 - Advanced Treatment Study	$0	$0	$0		$0	$120,037	$120,037
Total	**$3,840,234**	**$2,783,431**	**$162,877**	**$2,946,308**	**-$289,786**	**$289,786**	**$2,946,308**

DRAFT

Exhibit E

AMENDMENT NO. 3 TO THE AGREEMENT FOR PROFESSIONAL SERVICES
CH2M HILL ENGINEERS, INC.

CH2M Hill Engineers, Inc.
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

SUBJECT: Amendment No. 3 to Scope of Services for Yuba City WWTF - Outfall and Diffuser Project

This Amendment to the Agreement for Professional Services dated July 18, 2018 ("Third Amendment") is made and entered into as of the 1ST day of December 2020 by and between the City of Yuba City ("City") and CH2M Hill Engineers, Inc. ("Consultant").

Recitals

Whereas, by Professional Services Agreement dated July 18, 2018 ("Prime Agreement"), City entered into an agreement with Consultant for professional engineering services for the City's Outfall and Diffuser Project in the amount of $2,783,430.00.

Whereas, the City Manager approved Amendment No. 1 to the Prime Agreement on July 12, 2019.

Whereas, the City Manager approved Amendment No. 2 to the Prime Agreement on July 10, 2020.

Whereas, the Parties desire to amend the Prime Agreement for a third time to provide for additional tasks, updated scope of service, revised compensation, schedule of performance and other items related to the Project.

Agreement

In consideration of the foregoing Recitals and for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the City and Consultant agree as set forth herein.

1. Section 3, Compensation, of the Prime Agreement is amended to add the following:

   For services rendered by Consultant under this Amendment No. 3 to the Prime Agreement as outlined above, Consultant is authorized to transfer $50,000 from Task 5 (Bid Services) of Prime Agreement to Task 13 (Advanced Treatment Study) to complete the scope of work described in Exhibit "A". The total cost of Amendment No. 3 shall not exceed $50,000. The City shall consider adding additional funds needed to complete Task 5 at a later date if decided to proceed with bidding a project.

2. Except as amended in this Amendment No. 3, the terms and conditions of the Prime Agreement shall remain the same and shall be in full force and effect.

3. A copy of the Prime Agreement is attached hereto as Exhibit "B" and, except as otherwise amended by this Third Amendment, is incorporated as though set forth in full herein.

4. A copy of Amendment No. 1 is attached hereto as Exhibit "C" and, except as otherwise amended by this Third Amendment, is incorporated as though set forth in full herein.

5. A copy of Amendment No. 2 is attached hereto as Exhibit "D" and, except as otherwise amended by this Third Amendment, is incorporated as though set forth in full herein.

6. Except as amended in this Third Amendment, the terms and conditions of the Prime Agreement, First Amendment, and Second Amendment shall remain the same and shall be in full force and effect. This Third Amendment is not effective until approved and executed by the authorized City representative.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date and year first written above.

CITY:

CITY OF YUBA CITY, a municipal corporation

Diana Langley

Diana Langley, Interim City Manager

CONSULTANT:

CH2M HILL ENGINEERS, INC.

Name: John Schoonover

Title: Manager of Projects

Kindly execute the original and two (2) copies and return to City Hall at 1201 Civic Center Boulevard, Yuba City, CA 95993; the City will return a fully-executed copy to you via mail for your files.

Attachments:

Exhibit A: Amended Exhibit A to Prime Agreement
Exhibit B: Prime Agreement
Exhibit C: Amendment No. 1 (First Amendment)
Exhibit D: Amendment No. 2 (Second Amendment)

Exhibit A

Yuba City WWTF Outfall and Diffuser Project

Amendment 3 - Summary

This Amendment 3 is provided by CH2M HILL Engineers, Inc. (referred to as Jacobs in this Scope of Work) to the Yuba City Wastewater Treatment Facility Outfall and Diffuser Project (Project). Please note that on December 15, 2017, CH2M Hill Companies Ltd. became part of Jacobs Engineering Group Inc. (Jacobs). CH2M HILL Engineers, Inc. is now a wholly owned direct subsidiary of Jacobs. CH2M Hill Engineers, Inc. presently remains a separate legal entity and will continue to operate and conduct business.

Amendment 3 includes scope and funding to supplement follow-on work for the Advanced Treatment Study, initiated by Amendment 2, to evaluate alternative treatment options to the Project. The City directed Jacobs to stand-down work on transitioning to final design activities for the Project on February 24, 2020, while a brief Advanced Treatment Study was conducted.

City of Yuba City WWTF Advanced Treatment Study

In July 2020, the City of Yuba City initiated an Advanced Treatment Study to develop estimates for advanced treatment at the City's Wastewater Treatment Facility (WWTF), including options for handling existing flows and loads from the Sunsweet facility (reference Item 2B in Amendment 2). Advanced treatment was to be paired with a new side-bank discharge located near the City's existing diffuser at the Shanghai Falls in the Feather River. The projected effluent limits were developed by Larry Walker and Associates (LWA) and were provided by the City in a draft Technical Memorandum (TM) dated March 4, 2020.

Following completion of the Sunsweet handling options included in Task 2.2 of the Advanced Treatment Study and presentation to the City by conference call on September 17, 2020, the City requested that Jacobs stop work on the Advanced Treatment Project while the City determined whether the scope of the study still met the needs of the City to determine an appropriate course of action between the proposed Project and a potential advanced treatment project at the existing WWTF. During the month of September and October the City and Jacobs engaged in a series of conference calls to understand the City's needs and to develop a path forward to prepare a revised scope of work for the Advanced Treatment Study.

Amendment 2 to the Outfall and Diffuser Project added a new Task 13 for the Advanced Treatment Study, including tasks 13.1 – 13.4. Amendment 3 revises existing tasks 13.2.2 Sunsweet Handling Options and 13.3 Project Management, and adds the following new tasks:

- Task 13.5 Study Re-Scoping
- Task 13.6 Advanced Treatment Case Study Comparison
- Task 13.7 Screening Evaluation of Discharge Compliance

Attachments are included as follows:

- Attachment 1: City of Yuba City WWTF Advanced Treatment Study – Case Study Comparison and Discharge Compliance Screening Evaluation Scope of Work and Fee Estimate

Rates and Fees for Engineering Services

Fees for the proposed engineering services are shown in the following table and are based on the same rates as contracted for the City's Outfall and Diffuser Project.

Item	Services	Hours	Jacobs Total Labor	Total Expenses	Total Fee Estimate
1	Advanced Treatment Study – Case Study Comparison and Discharge Compliance Screening Evaluation	448	$89,234	$0	$89,234
2	Task 13.4 – Owner's Authorized Supplemental Services (Authorized in Amendment 2)	-187	-$39,270	$0	-$39,270
3	Transfer from Task 5 – Bid Services	-261	-$49,964	$0	-$49,964
	Amendment 3 Total	0	$0	$0	$0

Current Contract Value

The fee for the Amendment 3 scope of work is $89,234. This amount will be funded by the existing Task 13.4 Owner Authorized Supplemental Services budget of $39,720 and a transfer of approximately $50,000 from Task 5 Bid Services budget for the Project. Amendment 3 adds no additional funds to the total contract value. If the final design of the Project is authorized by the City in 2021, funds will be added by separate amendment to replace Task 5 funds.

The table below summarizes the new total contract value to date including this amendment.

Description	Total Fee Estimate
Original Contract Value	$2,783,430
Amendment 1	$162,877
Amendment 2	$0
Amendment 3	$0
New Contract Value	$2,946,307

Attachment 1: Advanced Treatment Study – Case Study Comparison and Discharge Compliance Screening Evaluation Scope of Work and Fee Estimate

Scope of Work for City of Yuba City WWTF Advanced Treatment Study – Case Study Comparison and Discharge Compliance Screening Evaluation

In July 2020 the City of Yuba City executed Amendment 2 to Jacob's existing Outfall and Diffuser Project to add, among other items, an Advanced Treatment Study to develop estimates for advanced treatment at the City's Wastewater Treatment Facility (WWTF), including options for handling existing flows and loads from the Sunsweet facility (reference Item 2B in Amendment 2). Advanced treatment was to be paired with a new side-bank discharge located near the City's existing diffuser at the Shanghai Falls in the Feather River. The projected effluent limits were developed by Larry Walker and Associates (LWA) and were provided by the City in a draft Technical Memorandum (TM) dated March 4, 2020.

Following completion of the Sunsweet handling options included in Task 2.2 of the Advanced Treatment Study and presentation to the City by conference call on September 17, 2020, the City requested that Jacobs stop work on the Advanced Treatment Project while the City determined whether the scope of the study still met the needs of the City to determine an appropriate course of action between the proposed Outfall and Diffuser project and a potential advanced treatment project and the existing WWTF. During the month of September and October the City and Jacobs engaged in a series of conference calls to understand the City's needs and to develop a path forward to prepare a revised scope of work for the Advanced Treatment Study.

Amendment 2 to the Outfall and Diffuser Project added a new Task 13 for the Advanced Treatment Study, including tasks 13.1 – 13.4. This amendment revises existing tasks 13.2.2 Sunsweet Handling Options and 13.3 Project Management, and adds the following new tasks:

- Task 13.5 Study Re-Scoping
- Task 13.6 Advanced Treatment Case Study Comparison
- Task 13.7 Screening Evaluation of Discharge Compliance

Unless specifically modified in this scope of work, all other tasks in the original Advanced Treatment Study amendment remain unchanged.

Task 13.2 – WWTF Advanced Treatment Study

Task 13.2.2 is modified as described below.

Task 13.2.2 Sunsweet Characterization and Recommended Handling Options

Jacobs will develop a new cost estimate for a Sunsweet equalization tank at Sunsweet as described in Jacob's Sunsweet Waste Handling Options presentation on September 17, 2020, Option 4a for flow equalization at Sunsweet.

City Involvement:

- Review proposed flow equalization concept.

Assumptions:

- New cost estimate will be a Class IV estimate appropriate for a feasibility-level estimate.

Deliverables:

- The flow equalization tank cost will be included in the draft Advanced Treatment Study.

Task 13.3 – Project Management and Meetings

The original Advanced Treatment Study anticipated completion by the end of September 2020. This change extends project management activities through March 2021 as described below.

JACOBS will complete project management tasks as outlined below. These activities are in addition to those already included in Amendment 2 – Item 2B Advanced Treatment Study. The budget assumes that overall project scope is as defined in the preceding Tasks.

Task 13.3.1 – External Project Meetings
JACOBS will attend the following project meetings with City staff:

- Biweekly Conference Call Progress Meetings. Meeting attendance will mostly be limited to Jacobs and City project managers.
- Meetings are expected to be conducted for up to 6 months between October 2020 and March 2021.
- Up to 2 Conference Calls for Tasks 13.6 and 13.7 below.

City Involvement:

- Review agendas and minutes from project progress meetings and alert Jacobs project manager of any questions or corrections.

Assumptions:

- Meeting dates and times and method (in-person or by conference call) will be as agreed to between Jacobs and the City and will be subject to travel restrictions implemented by either party or by federal, state, or local public meeting limitations.
- Up to 12 biweekly Progress Meetings between October 2020 and March 2020.

Deliverables:

- Conference call and Workshop agenda and meeting summaries.

Task 13.3.2 – Develop and Maintain Project Management Tools
JACOBS does not anticipate any additional effort on this task.

Task 13.3.3 – Project Controls and Invoicing
JACOBS project controls staff will prepare regular internal cost reports for review by the Jacobs Project Manager. Jacobs will also prepare monthly invoices and a Project Status Report including progress report narrative, scope change summary, and schedule and budget status. Monthly invoices Project Status Reports will be submitted to the City Project Manager for review and approval.

City Involvement:

- Review and approve monthly invoice and project status report.

Assumptions:

- Assumes 5 months of project cost reports, monthly invoices, and progress reports
- Budget status burn charts are not included

Deliverables:

- Monthly invoices and Project Status Reports

Task 13.3.4 – Project Team Coordination
Jacobs will conduct the following internal team coordination activities:

- Regular project team coordination meetings

Task 3.5 – Health and Safety
JACOBS does not anticipate any additional effort on this task.

Task 13.5 – Study Re-Scoping

Jacobs will assist the City in revising the WWTF Advanced Treatment Study project. Services provided in this task include:

- Prepare draft outlines for revised project scope of work.
- Attend conference calls with City staff to review draft outlines and to assist in project definition.
- Develop preliminary table - Estimated Nitrogen-Related Improvement Costs as Percentage of Total Improvement Costs for Case Studies
- Develop preliminary table - Screening Assessment of Means for Discharge Compliance with Water Quality Orders (WQOs)
- Project List Development - Contact preliminary list of agencies listed in Table 6-1 to ensure that the data is available prior to finalizing scope, fee, and schedule.

C**ity Involvement:**

- Review and comment on draft versions of project scope of work outlines.
- Attend conference calls.
- Approve final project scope of work.

Assumptions:

- Up to 3 conference calls of 1.5 hours each.
- Up to 2 draft versions of project scope of work outline, one draft SOW, and final SOW.

Deliverables:

- Draft outlines for revised project scope of work.
- Final revised project scope of work.

Task 13.6 – Advanced Treatment Study Case Study Comparison

Task Objectives

Attempt to obtain capital (e.g., capacity) and nutrient removal improvement costs from other North California Public Operated Treatment Works (POTWs) to provide Yuba City (City) staff a better understanding of relative capital and nutrient removal improvement costs. It is anticipated that the cost data will indicate that nutrient relative improvement costs represent the majority (e.g., 70 to 80 percent) of overall capital improvement costs.

Effort associated with obtaining readily available cost information from reports, data, and other information will be limited to estimated capital and operations and maintenance (O&M) costs and the specific agencies listed in Table 6-1.

Primary Activities

Complete Table 6-1 and conduct one 1.5-hour conference call to review results of findings and receive comments from the City.

City Involvement

Review list of agencies included in Table 6-1 and draft Table 6-1 once it has been completed by Jacobs.

Assumptions

- Case study costs (both capital and O&M) will be divided into “Nitrogen-Related Improvements” and “Non-Nitrogen Related Improvements” and shown in Table 6-1.
- No additional costs will be estimated, and no further effort will be made to estimate potential costs for constituents specific to Yuba City.
- Evaluation will NOT review or consider treatment approaches taken by other Northern California Valley POTWs to address constituents other than nitrogen.

Deliverables

Limited to Draft and Final versions of Table 6-1 with brief description and writeup limited to 2-3 pages and primarily consisting of the information contained in this scope of work followed by a brief summary of results and findings and limited to that described in Table 6-1. Deliverable is intended to be stand-alone and separate from the Advanced Treatment Study TM, but we can include as an appendix to the TM if requested.

Task 13.7 – Screening Evaluation of Discharge Compliance

Task Objectives

1) Develop updated reasonable potential analysis (RPA) of YC WWTF effluent discharge compliance with water quality criteria to identify potential dilution requirements for the Advanced Treatment Facility using the proposed submerged bank-side outfall, and

2) Develop screening-level dilution modeling for the proposed submerged bank-side outfall at site downstream of Shanghai Falls.

Primary Activities

- Develop an updated RPA to identify dilution requirements for the Yuba City WWTF effluent chemistry data to meet current water quality criteria (based on updated effluent chemistry data for November 2017 through September 2020), existing available background Feather River chemistry data through September 2020, and using reasonable potential analysis spreadsheets.
- Develop screening-level dilution modeling for the proposed submerged bank-side outfall at one site downstream of Shanghai Falls using CORMIX1 model for a single-port discharge with an elastomeric check valve port. Model cases will apply projected build-out effluent flows and Feather River critical discharge conditions as applied in the YC WWTF Outfall and Diffuser Project Predesign Report (Jacobs, February 2020). Summarize modeling inputs and results in a table, and provide recommendations for aquatic life and human health mixing zone boundaries.
- Conduct one 1.5 hour conference call to review results of findings and receive input and comments from the City.
- Develop text to summarize the results and assumptions of the RPA update and the discharge modeling to be included in the Advanced Treatment Study Technical Memorandum.

City Involvement

- Provide effluent chemistry data for November 2017 through September 2020 – including ammonia, metals, and priority pollutant organics.
- Provide the City's Feather River monitoring data for November 2017 through September 2020 – including ammonia, metals, and priority pollutant organics.
- Provide reviews and input during project review meetings and to the draft deliverable listed under this task.

Assumptions

- Feather River bathymetry will be based on June 2020 survey and current velocities calculated using the existing SRH-2D model output for Human Health (Harmonic Mean), Acute (1Q10), and Chronic (7Q10) river flow conditions.
- Ammonia water quality criteria applied will be based on EPA 2013 ammonia criteria assuming mussels are present, and CVCWA proposed ammonia criteria with mussels present – to represent conservative ammonia criteria conditions in the future.
- The dilution provided by the proposed submerged bank-side outfall in the Feather River will be constrained by the low river flow volume, water depths, and river channel geometry.
- Recommended aquatic life mixing zone boundaries will be in alignment with SIP and it is assumed the CVRWQCB will allow the City to utilize complete mix of river flow with the City effluent discharge to the river for the human health mixing region.
- Dynamic modeling of any constituents is not included.

Deliverables

- Updated RPA
- Dilution model summary table
- Meeting summary from review conference call
- Incorporate results into Advanced Treatment Study Technical Memorandum

Schedule

Table 1 presents a summary of the revised project schedule along with key client meetings, conference calls, and submittal dates.

Table 1. Revised Schedule for WWTF Advanced Treatment Study Project

Task/Activity	Milestone / Submission Date
Notice to Proceed (City, assumed date)	November 23, 2020
City to Provide Feather River Monitoring Data	December 4, 2020
Deliver Draft Table 6-1 and Summary	December 18, 2020
City Review Period	December 18 – January 8, 2021
City Closed for Holidays	December 24 – January 4, 2021
Task 13.6 Case Study Review Conference Call	January 12, 2021
Task 13.7 Discharge Compliance Review Conference Call	January 14, 2021
City provides direction to resume completion of Advanced Treatment Study	January 15, 2021
Deliver Draft Workshop Materials	January 29, 2021
City Reviews Workshop Materials	February 1-8, 2021
Task 2.4 Alternative Development Workshop	February 9, 2021
Draft Technical Memorandum	February 26, 2021
Client Consolidated TM Review Comments	March 12, 2021
Final TM	April 2, 2021

Fees Estimate and Rate Schedule

Appendix A presents our fee estimate for the changes to the Advanced Treatment Study. The Rate Schedule will be the same as the Outfall and Diffuser Project.

CITY OF YUBA CITY PUBLIC WORKS DEPARTMENT WWTF Advanced Treatment Study (ATS) Case Study Comparison and Discharge Compliance Screening Evaluation	Total Hours	Total Labor	Travel	Expense	Subs	10% Expense/Travel Markup	5% Subcontract Markup	Total Expenses	Total Fee Estimate
Task 13 Advanced Treatment Study Amended Tasks									
Task 13.2 - Sunsweet Characterization									
Subtotal - Task 13.2.2 Sunsweet Handling Options	12	$ 2,644	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,644
Task 13.3 - Project Management and Meetings									
Subtotal - Subtask 13.3 - Project Management and Meetings	164	$ 29,032	$ -	$ -	$ -	$ -	$ -	$ -	$ 29,032
Task 13.5 - Study Rescoping									
Subtotal - Task 13.5. Study Rescoping	101	$ 21,113	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,113
Task 13.6 - ATS Case Study Evaluation									
Subtotal - Task 13.6 ATS Case Study Evaluation	88	$ 19,754	$ -	$ -	$ -	$ -	$ -	$ -	$ 19,754
Task 13.7 - Screening Evaluation of Discharge Compliance									
Subtotal - Subtask 13.7 - Screening Evaluation of Discharge Compliance	83	$ 16,692	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,692
Task 13 Advanced Treatment Study Amended Task Budget	448	$ 89,234	$ -	$ -	$ -	$ -	$ -	$ -	$ 89,234

Yuba City WWTF Outfall and Diffuser Project
Contract Budget Authorization
City of Yuba City

Task	Proposed Contract Budget Amount	Original Authorized Amount and Date (7/11/18)	Amendment 1 Authorized Amount and Date (9/19/19)	Amendment 2 Authorized Amount and Date (7/10/20)	Amendment 3 Authorized Amount and Date (TBD)	Total Authorized Amount Amount To-Date
Task 1 - Predesign	$821,864	$821,864	$87,540	$71,758	$0	$981,162
Task 2 - ROW Acquisitions	$185,305	$185,305	$0	$0	$0	$185,305
Task 3 - Design	$570,155	$570,155	$0	-$289,786	$0	$280,369
Task 4 - Enviromental Services/Permitting	$254,423	$254,423	$0	$35,053	$0	$289,476
Task 5 - Bid Services	$57,819	$57,819	$0	$0	-$50,000	$7,819
Task 6 - Services During Construction	$239,751	$0	$0	$0	$0	$0
Task 7 - Testing and Startup	$177,897	$0	$0	$0	$0	$0
Task 8 - Construction Management	$458,476	$0	$0	$0	$0	$0
Task 9 - Operations and Maintenance Manual	$21,362	$0	$0	$0	$0	$0
Task 10 - Project Management	$503,617	$344,301	$10,294	$38,024	$0	$392,619
Task 11 - CA SRF Loan Application Support	$50,000	$50,000	$0	$0	$0	$50,000
Task 12 - Supplement Services	$499,564	$499,564	$65,043	$24,914	$0	$589,521
Task 13 - Advanced Treatment Study	$0	$0	$0	$120,037	$50,000	$170,037
Total	**$3,840,234**	**$2,783,431**	**$162,877**	**$0**	**$0**	**$2,946,308**

ATTACHMENT 3

Wastewater Treatment Facility
Effluent Discharge Outfall Diffuser Project

Contract Amendment Summary

Amendment 1:

Staff executed Amendment No. 1 in the amount of $162,877 from the Council-approved contingency to complete the following out of scope tasks that were necessary to complete the preliminary design:

- Spring 2019 Bathymetric Survey
- 2019 Supplemental Riverbed-form Modeling and Evaluation
- 2019 River-bottom Geophysical Survey
- Riverbed-form Evaluation Update to Address Downstream Channel Constriction
- Supplemental Drone Survey

Amendment 2:

On July 7, 2021, Council authorized Amendment No. 2 in the amount of $289,786 to transfer funds from final design to fund out of scope work necessary to proceed towards final design, including effluent pumping system testing support, in-river geotechnical boring permitting support, dynamic modeling support, spring season bathymetry surveys, a hydraulic and scour analysis, an additional predesign workshop, and project management associated with these additional tasks. Amendment No. 2 also included the Advanced Treatment Study.

Amendment 3:

Amendment No. 3 transferred funds in the amount of $50,000 from bid services to the Advanced Treatment Study to fund additional case study evaluations and further evaluate discharge compliance for a potential side-bank discharge.

Amendment 4:

Amendment 4 included funding reconciliation for contract budget transfers made via Amendments 2 and 3, as well as additional services to support activities during the predesign, final design, and bid phases of the Project for additional Dissolved Oxygen analyses, in-river geotechnical boring permitting support, hydraulic and scour modeling analyses, follow-on tasks to the Advanced Treatment Study, labor escalation for deferred activities, and project management support.

Amendment 5:

Amendment 5 included funding for design, permitting, and easement acquisition for additional surge tanks, effluent pump station modeling, a bifurcation structure, riverbank restoration, and alternate pipeline alignments, in addition to support for a State Revolving Fund loan application and an Economic Development grant application.

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Finance/IT Department
Presentation By: Robert Bendorf, City Manager

Summary

Subject: General Fund Contingencies Policy F-1 and General Fund Reserves Policy F-2

Recommendation: Approve General Fund Contingencies Policy F-1 and General Fund Reserves Policy F-2

Fiscal Impact: Approval of these policies establishes long-term reserve and contingency funding goals to support future budget development with no fiscal impact.

Background:

The City of Yuba City has historically provided safeguards for the General Fund by allocating contingencies and reserves during the annual budget process. This practice provides funding for unanticipated and/or emergency expenditures during the fiscal year. General Fund Contingencies are allocated as a line item within the General Fund, while General Fund Reserves have historically remained within the General Fund balance.

The General Fund Contingencies and Reserves policies, collectively referred to as the City's Healthy City Reserves have been referenced in the annual budget; however, formal standalone policies memorializing these practices currently do not exist within the broader context of the City's overarching budget policies.

The proposed General Fund Contingencies Policy F-1 identifies the limited use of contingency funds, establishes a budgeting goal of 2% of General Fund Operating Expenditures and Revenues, and outlines procedures staff must follow if the need for unplanned or emergency funding arises. The policy further establishes that appropriations from contingency funds require City Council approval by a 4/5 vote.

The proposed General Fund Reserves Policy F-2 identifies the limited use of reserve funds, establishes a reserve goal of 15% of General Fund Operating Expenditures and Revenues, and introduces a process for placing General Fund Reserves into a separate reserve fund to further enhance transparency and financial monitoring.

This methodology represents a change from the City's historical practice of maintaining reserve amounts within the General Fund balance, where fluctuations in cash flow may make reserve tracking less transparent. Establishing a separate reserve fund provides greater transparency by allowing staff and the City Council to more clearly identify reserve funding levels at any given time and better monitor progress toward the City's stated reserve goals.

The proposed policy also establishes expectations for replenishment planning when reserve funds are utilized for one-time emergencies or other critical financial needs.

Ultimately, these policies support the City's recently adopted Strategic Plan and reinforce the City's commitment to long-term financial stability and responsible fiscal management.

Analysis:

Approval of the proposed policies will formally memorialize the City's intended use and management of General Fund Contingencies and General Fund Reserves and provide additional financial policy documentation for external agencies and organizations that evaluate the City's creditworthiness, financial practices, and budget management.

Both policies establish clear governance procedures, including the requirement for City Council approval by a 4/5 vote for appropriations related to contingencies and reserves.

While achieving the stated reserve funding goals may take time due to current budget constraints, implementation of the proposed reserve structure will improve transparency, strengthen long-term financial planning, and provide clearer identification of available reserve funding.

Fiscal Impact:

Approval of these policies establishes long-term reserve and contingency funding goals to support future budget development with no fiscal impact.

Alternatives:

There are no alternatives recommended for this request.

Recommendation:

Staff recommends approval of General Fund Contingencies Policy F-1 and General Fund Reserves Policy F-2. The policy numbering format is intended to support the City's future organization of administrative policies and procedures.

Attachments:
1. General Fund Contingencies Policy F-1
2. General Fund Reserves Policy F-2

Prepared By:
Kaylayshia Byrd
Administrative Analyst II

Submitted By:
Robert Bendorf
City Manager

ATTACHMENT 1

City of Yuba City Standard Operating Procedures

Source: Finance	Supersedes: N/A	Effective/Revision Date: XX/XX/XX
Title: **General Fund Contingencies Policy F-1**		
Approved by City Council Agenda Item: XX-XXX		

Purpose:

The City shall maintain a General Fund Contingency allocation to cover unanticipated and/or emergency expenses that may occur during the fiscal year. The allocation is based on available General Fund dollars identified during the budget process.

The Government Finance Officers Association (GFOA) recommends the Contingency allocation be set at two (2) months of General Fund Operating Expenditures and Revenues (roughly 16%). The City can use this guideline as a goal but can set the allocation based on needs and available funding. Once the allocation amount is determined, it is approved by the City Council utilizing a 4/5 vote during the budget process.

Policy:

It is the City's policy that General Fund Contingency funds are reserved for unanticipated and/or emergency expenses only and the need for these funds are reviewed on a case-by-case basis. The City will strive to maintain General Fund Contingency at a minimum of 2% of budgeted General Fund Operating Expenditures and Revenues. The allocation amount is approved by the City Council utilizing a 4/5 vote during the budget process.

Procedure:

To access General Fund Contingency funds during the fiscal year, the department must take the following actions:

1. Review all available funds within the department's budget to see if unspent funds from another line item can cover the unanticipated and/or emergency expense first. If other funds within the budget are identified, the department can initiate a budget transfer to move available funds from one line item to another.

2. If there are no funds available within the department's budget to cover this cost, the department must contact the City Manager and/or the Finance Director to inform them of the situation and obtain guidance on next steps.

3. Once the City Manager and/or Finance Director have been notified and they concur that there is a need for General Fund Contingency funds, a budget transfer, staff report, and presentation to request the General Fund Contingency funds must be prepared by the department for the City Council review and approval. This will require 4/5 vote from City Council to approve the transfer.

ATTACHMENT 2

City of Yuba City Standard Operating Procedures

Source: Finance	Supersedes: N/A	Effective/Revision Date: XX/XX/XX
Title: **General Fund Reserves Policy F-2**		
Approved by City Council Agenda Item: XX-XXX		

Purpose:

To establish the targeted level of General Fund operating reserves, a basic component of a financially strong city. Adequate reserves help sustain City operations when adverse or unexpected circumstances affect the City, providing resources to minimize service disruption in the event of temporary revenue shortfalls or unpredicted one-time expenditures. This policy establishes the amounts the City will strive to maintain in its General Fund Reserves and the conditions under which the reserve may be used.

Policy:

According to the Government Finance Officers Association (GFOA), it is essential that governments maintain adequate reserves to mitigate current and future risks (e.g., revenue shortfalls and unanticipated expenditures) to protect taxpayers and employees from unexpected changes in financial conditions. The GFOA recommends the General Fund Reserves allocation be set at two (2) months of General Fund Operating Expenditures and Revenues (roughly 16%). The City can use this guideline as a goal but can set the allocation based on needs and available funding.

The City will strive to maintain General Fund Reserves at a minimum of 15% of budgeted General Fund Operating Expenditures and Revenues. Once the allocation amount is determined, it is approved by the City Council utilizing a 4/5 vote during the budget process.
The City has a goal of placing General Fund Reserves in a separate fund outside of the General Fund for external financial reporting and transparency and may do so incrementally to avoid cash flow issues within the General Fund.

Appropriations from the General Fund Reserves may only be made by a 4/5 vote of the City Council to meet a critical, unpredictable financial need and shall not be used for recurring annual operating expenses. If it becomes necessary to utilize reserve funds for unique one-time costs, emergencies or maintaining City services during periods of reductions, appropriations should, when feasible, be accompanied by a plan for the replenishment within a reasonable period.

During FY 2016-17, the City established a Pension Stabilization Trust Fund. A policy wherein as of June 30, 2017, any surplus funds more than the required 15% reserve would be split equally and transferred one-half to the pension stabilization trust and one-half to the unallocated general fund capital improvement project account for future infrastructure type projects.

Funding for reserves will come generally from one-time revenues, excess fund balance and projected revenues more than projected expenditures. They will generally be reserved in the following priority order:

- Reserve for Economic Contingency or Emergencies
- Reserve for Capital Improvements
- Reserve for Future Years' Budgets

However, flexibility will be retained to allocate available funds among the reserves based on current circumstances and needs of the City's various operating funds.

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Finance/IT Department
Presentation By: Robert Bendorf, City Manager

Summary

Subject: Adoption of the Fiscal Year 2026-27 Operating Budget and Capital Improvement Plan

Recommendation: A. Adopt a Resolution approving the proposed Fiscal Year 2026-27 Operating Budget

B. Adopt a Resolution approving the proposed Fiscal Year 2026-27 Capital Improvement Plan

Fiscal Impact: Adoption of the Fiscal Year 2026-27 Operating Budget and Capital Improvement Plan authorizes expenditures and the use of revenues, reserves, and other financing sources necessary to fund City operations and capital projects during the fiscal year.

Purpose:

To adopt the Fiscal Year 2026-27 Operating Budget and Capital Improvement Plan thereby authorizing implementation of the City's fiscal priorities for the upcoming fiscal year.

Strategic Focus Area:

This staff report supports the City Council's priority of fiscal responsibility.

Background:

Budget development meetings began the week of March 9, 2026. Department Heads presented budget projections and discussed operational needs with the City Manager and Finance Director. Following these meetings, the City Manager provided an overview of the proposed Fiscal Year 2026-27 Budget to the City Council Budget Ad Hoc Committee on June 1, 2026. The Committee reviewed the proposed operating budget, asked questions, and provided comments. Following discussion, the Committee recommended no additional changes to the proposed operating budget.

Analysis:

Finance recommends the following year-end transfer as of June 30, 2026:

Water and Wastewater Working Capital:

In accordance with the provisions of the City's Budget Policy, the City shall ensure that, as of June 30, 2026, the Water Fund and Wastewater Fund maintain a minimum 90-day working capital reserve. Working capital beyond the 90-day requirement will be transferred to the respective capital improvement project fund for future rehabilitation and replacement projects for the utility (Section 2 of the budget adoption resolution).

Transfer to General Fund Reserves:

The City's Fiscal Policy establishes a General Fund reserve goal of 15% of the subsequent fiscal year's appropriations. To help achieve this reserve target, staff recommend that any General Fund balance in excess of 8.5% of the subsequent fiscal year's appropriations be transferred to the General Fund Reserve Fund.

This action supports prudent financial management by setting aside one-time budgetary savings realized at the end of a fiscal year for future financial stability, unforeseen needs, and economic uncertainties. Based on current projections, the amount available for transfer from FY 2025-26 is estimated to be approximately $2 million.

Additional Considerations:

In approving the proposed budget, Council authorizes the Finance Director to use up to $2.185 million in reserves and available fund balances as outlined in the FY 2026-27 Proposed Budget.

Fiscal Impact:

Adoption of the FY 2026-27 Operating Budget and Capital Improvement Plan authorizes expenditures and the use of revenues, reserves, and other financing sources necessary to fund City operations and capital projects during the fiscal year.

Alternatives:

Direct staff to modify the proposed budget

Recommendation:

A. Adopt a Resolution approving the proposed Fiscal Year 2026-27 Operating Budget

B. Adopt a Resolution approving the proposed Fiscal Year 2026-27 Capital Improvement Plan

Attachments:

1. Attachment 1 - Budget Resolution 26-27
2. Attachment 2 - Budget CIP Resolution 26-27
3. Attachment 3 - Proposed FY 26-27 Operating Budget
4. Attachment 4 - Proposed FY 26 -27 CIP Budget

Prepared By:
Kaylayshia Byrd
Administrative Analyst II

Submitted By:
Robert Bendorf
City Manager

ATTACHMENT 1

RESOLUTION NO. ___

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY ADOPTING THE CITY'S OPERATING BUDGET FOR FISCAL YEAR 2026-27

BE IT RESOLVED AND ORDERED BY THE CITY COUNCIL OF THE CITY OF YUBA CITY AS FOLLOWS:

WHEREAS**,** a proposed operating budget for the City of Yuba City for the fiscal year commencing July 1, 2026 and ending June 30, 2027 was submitted to the City Council by the City Manager on June 11, 2026; and,

WHEREAS, a special City Council Budget Ad Hoc Committee meeting on the proposed FY 2026-2027 Operating Budget ("proposed annual budget") was held on June 1, 2026; and,

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Yuba City hereby

Section 1. The proposed annual budget is adopted as the annual budget for the City of Yuba City for the fiscal year commencing July 1, 2026 and ending June 30, 2027.

Section 2. The Finance Director is directed to ensure that of June 30, 2026, the Water and Wastewater operating funds have a 90-day reserve fund balance in accordance with the provisions of the City's Budget Policy.

Section 3. The Finance Director is directed to ensure that as of June 30, 2026, the general fund has a fund balance of no less than 8.5% of FY 2026-2027 General Fund expenditures. The Finance Director is further directed to transfer any fund balance in excess of 8.5% to the General Fund Reserve Fund.

Section 4. The Finance Director is authorized to make other such revisions, individual appropriation line-item changes, changes in summaries, fund totals, grand totals, and other portions of the budget document as necessary to reflect and implement the programs specified in this resolution, and in full accordance to the direction provided by the City Council up until the adoption of the resolution.

The foregoing Resolution was duly and regularly introduced, passed, and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

_____

Marc Boomgaarden, Mayor

ATTEST:

Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY:

Shannon Chaffin, City Attorney
Aleshire & Wynder, LLP

ATTACHMENT 2

RESOLUTION NO. ___

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY ADOPTING THE CITY'S CAPITAL IMPROVEMENT PLAN FOR FISCAL YEAR 2026-27

BE IT RESOLVED AND ORDERED BY THE CITY COUNCIL OF THE CITY OF YUBA CITY AS FOLLOWS:

WHEREAS**,** a proposed Capital Improvement Plan (CIP) budget for the City of Yuba City for the fiscal year commencing July 1, 2026 and ending June 30, 2027; and

WHEREAS, the Planning Commission reviewed the proposed FY 2026-27 Capital Improvement Plan on June 9, 2026 and found the proposed plan to be consistent with the City's General Plan; and

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Yuba City hereby

Section 1. The proposed annual CIP budget is adopted for the City of Yuba City for the fiscal year commencing July 1, 2026, and ending June 30, 2027.

The foregoing Resolution was duly and regularly introduced, passed, and adopted by the City Council of the City of Yuba City at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____
Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY:

_____

Shannon Chaffin, City Attorney
Aleshire & Wynder, LLP

ATTACHMENT 3

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CITY OF YUBA CITY

OPERATING BUDGET



Fiscal Year

2026-2027

PROPOSED

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INTRODUCTION

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City Officials

Marc Boomgaarden
Mayor
District Term 2022-2026
District 2

Michael Pasquale
Vice Mayor
District Term 2022-2026
District 3

Dave Shaw
Councilmember
District Term 2022-2026
District 1

Wade Kirchner
Councilmember
District Term 2025-2029
District 4

Toni Cole
Councilmember
District Term 2025-2029
District 5

Robert Bendorf
City Manager

Diona Pope
City Treasurer

Ciara Wakefield
City Clerk/Risk Manager

1201 Civic Center Boulevard, Yuba City, Sutter County, California 95993
www.yubacity.net

Administrative Officials

Administration	Robert Bendorf, City Manager Ciara Wakefield, City Clerk/Risk Manager
City Attorney	Aleshire & Wynder, LLP Shannon Chaffin, City Attorney
Development Services	Doug Libby, Development Services Director Mike Campos, Chief Building Official
Finance	Diona Pope, Finance Director Brian Hansen, IT Manager Joe Jones, Accounting Manager
Fire Services	Joshua Hubbard, Fire Chief Ali Williams, Division Chief
Human Resources	Gina Rowland, Human Resources Director Sheleen Loza, Human Resources Manager
Community Services	Ann Gillen, Community Services Director Megan Anderson, Animal Services Manager
Police Services	James Runyen, Chief of Police Brent Slade, Police Commander Kim Slade, Police Commander Michael Bullard, Lieutenant David Santanna, Lieutenant
Public Works	Josh Wolffe, Public Works Director Kevin Bradford, Deputy P.W. Director - Engineering Nicholas Menezes, Deputy P.W. Director – Engineering Tim Bybee, Deputy P.W. and Utilities Director - Maintenance
Public Works/Utilities	Phillip Marler, Utilities Director Tim Bybee, Deputy P.W. and Utilities Director - Maintenance Scarlett, Harris, Administrative Manager

City of Yuba City Strategic Plan

The Strategic Plan of Yuba City is...

To foster a city that is
One Community, Endless Possibilities, and a Place to Call Home
for today and in the future.

Our Strategic Focus Areas are...

Safe Communities
1. *Provide a Safe Community with a High Quality of Life*

Economic Development
2. *Plan for the Future*

Infrastructure
3. *Explore Energy Generation, Road Repairs, and Public-Private Partnerships*

Workforce Excellence
4. *Commitment to Teamwork, Empowerment and Development of Employees*

Fiscal Responsibility
5. *Protect Financial Health and Promote Economic Viability*

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GENERAL FUND

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General Fund Budget Net Change

Proposed FY 2026-2027

The General Fund continues to experience financial pressure due to rising operating costs and relatively minimal discretionary revenue growth.

GENERAL FUND REVENUE

General Fund Revenue, particularly discretionary revenue, is the most flexible and important source(s) for the City's budget to meet ongoing costs in key areas, such as Police, Fire and Parks & Recreation. Of the City's approximately $42 million it receives in discretionary revenue, the three aforementioned departments are recommended to receive approximately 90% of the $42 million. This is fairly consistent with previous years, confirming the City Council's unwavering Public Safety commitment.

The City is projecting a modest net increase of $2,864,096. While discretionary revenues such as property tax, business licenses, and franchise fees are expected to increase slightly, these gains are partially offset by projected declines in sales tax revenue. **Overall, discretionary revenues are projected to increase by a net amount of $916,000, or 2.1%.** Most of the projected revenue growth is attributable to non-discretionary and semi-discretionary sources, including one-time operating transfers, cost allocation adjustments, and grant funding, which together account for approximately $1.95 million of the total increase. **It should be noted that for the last 12 month period, ending in April, the United States inflation rate is 3.8%.**

GENERAL FUND EXPENDITURES

Department Heads have worked proactively to manage increasing expenditures in areas including workers' compensation, employee health benefits, merit increases, pensions, and utility costs and many others.

Through strategic planning and cost-saving measures, departments have identified additional expenditure reductions totaling $1,166,426. These reductions were achieved through deleting and unfunding positions, pausing certain City sponsorships and donations, continuing reduced operating hours at City Hall, and maintaining the seasonal closure of GAP from September through January.

SUMMARY

As a result of these combined efforts, the City's structural deficit has been reduced from $6.2 million in FY 2025/26 to approximately $2.2 million in FY 2026/27. The following page outlines the proposed plan to fully balance the budget. These adjustments have already been incorporated into the FY 2026/27 Proposed Budget.

General Fund Budget Net Change

Proposed FY 2026-2027

BUDGET NET CHANGE - FY 2025-26 vs. FY 2026-27	Requested FY 26/27	Adopted FY 25/26	Net Change in Budget
Total Revenues	$ 60,146,968	$ 57,282,872	***$ 2,864,096***
Total Expenditures	62,331,167	63,497,593	***(1,166,426)***
Structural Budget Deficit	***$ (2,184,199)***	***$ (6,214,721)***	***$ 4,030,522***

Major Changes in Revenues from FY 25/26 to FY 26/27	
Increase in projected Property Tax	$ 589,272
Decreased projected Sales Tax	(175,917)
Increase in Business License	150,000
Increase in Franchise Fees	100,000
Increase in Hotel/Motel	146,000
Increase in Building Permits	400,000
Increase in Recreation Revenue	302,022
Increase in Misc. Revenues	101,872
Increase in Public Safety revenues	348,006
Increase in Cost Allocation transfers	744,508
Use of One Time - Vehicle Replacement Fund	500,000
Decrease in Zoning Fee Revenue	(75,000)
Decrease in Safer Grant	(266,667)
Net Increase in Revenues	***$ 2,864,096***

Major Changes in Expenditures from FY 25/26 to FY 26/27	
Decrease in Salaries	(2,178,336)
Increase in UAL	855,238
Increase in Worker's Comp	147,951
Decrease in Vehicle Leases	(417,300)
Increase Contigency	400,000
Increase Tourism/Special Evenuts	119,500
Misc. Decreases	(93,479)
Net Decreasein Expenditures	***$ (1,166,426)***

General Fund Balancing Plan

Proposed FY 2026-2027

To address rising General Fund costs, limited revenue growth, and a remaining General Fund structural deficit of approximately $ 2.2 million, a balanced and strategic budget approach is being recommended for FY 2026–27. In comparison, the previous year required nearly $ 6.2 million in one-time funds.

The proposed plan includes use of $2,184,199 from reserves and discretionary funds, as outlined below.

1. Use of projected reserves / unassigned carryover funds from FY 2025-26 of $784,199
2. Use of Pension Stabilization funds of $900,000
3. Use of $500,000 in projected interest earnings from ARPA funds for FY 2026–27.

The recommended use of these funds have been incorporated into the Proposed FY 2026/27 Budget.

One-time use of funds

	FY 26/27 Projected Available Balance	Recommended Use of Funds	FY 26/27 Projected Ending Balance
Carryover Funds	$ 5,355,266	$ 784,199	$ 4,571,067
Pension Stabilization Fund	4,100,000	900,000	3,200,000
ARPA Interest	500,000	500,000	-
	$ 9,955,266	$ 2,184,199	$ 7,771,067

General Fund Revenue Details

Proposed FY 2026-2027

	Actual 2022-23	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Property Tax-Current	$ 9,044,618	$ 9,801,036	$ 10,128,885	$ 10,545,665	$ 11,027,574
Property Tax-Unsecured	433,571	446,812	540,589	555,712	562,924
Property Tax-Supplemental	285,039	269,340	231,080	299,236	161,486
Property Tax-Prior Years	8,394	14,635	31,552	-	-
Property Tax-Interest & Penalties	94,306	57,912	19,523	30,000	37,879
Property Tax In Lieu/VLF Swap	6,114,480	6,534,758	6,902,472	7,274,596	7,504,618
Sales and Use Tax	17,120,540	17,033,861	16,026,538	16,493,277	16,902,360
Prop 172 - Public Safety Aug.	566,427	557,595	557,630	556,979	560,000
Franchises	1,986,137	2,187,696	2,195,149	2,100,000	2,200,000
Business Licenses	1,306,279	1,428,223	1,426,684	1,300,000	1,450,000
Real Property Transfer	197,380	189,944	197,933	200,000	200,000
Hotel/Motel Surcharge	1,344,264	1,437,403	1,454,039	1,600,000	1,600,000
Total Taxes	**38,501,435**	**39,959,215**	**39,712,074**	**40,955,465**	**42,206,841**
Stormwater Plan Check/Inspctn	20,413	10,335	16,988	15,000	-
Construction Permits	1,859,606	1,440,240	1,732,458	1,400,000	1,800,000
GIS Fee	90,439	71,198	104,020	75,000	26,000
Encroachment Permits	233,088	363,147	91,123	100,000	100,000
Plan Check/Inspec - Engineering	350,755	226,382	435,181	500,000	507,000
Code Violation Fine	5,136	7,120	18,943	25,000	37,500
Total Licenses & Permits	**2,559,437**	**2,118,422**	**2,398,713**	**2,115,000**	**2,470,500**
Homeowner Prop Tax Relief	81,178	75,956	74,443	82,000	73,736
Motor Vehicle License In Lieu	71,937	86,689	110,773	100,000	100,000
Federal Law Enforcement Grant	-	-	6,738	-	-
HMLD Sec Asst to FF Grant	35,245	6,755	-	-	-
State-Mandated Cost Reimb.	41,872	89,875	94,017	90,000	90,000
SAFER Grant	86,903	368,001	448,973	266,667	-
State COPS Grant	114,157	761,716	-	-	-
State OES Grant	-	38,604	18,107	-	-
State OTS Grant	99,643	82,997	91,568	-	-
State POST Reimb	-	16,595	129,335	100,000	100,000
State - Other Revenue	8,389	22,976	341,153	5,000	20,000
Pilot Revenue	154,441	-	-	-	-
Total Intergovernmental	**693,765**	**1,550,163**	**1,315,107**	**643,667**	**383,736**
Police - Special Events	-	-	-	-	100,000
Police - Special Services	243,496	268,898	374,889	200,000	228,000
Police - False Alarm Fees	99,954	75,505	76,312	70,000	90,834
Police - Asset Forfeiture	-	5,778	-	-	-
Police Special Response	205,592	50,750	-	-	-
Fire - Permit Fees	135,099	133,283	101,171	72,000	70,618
Fire - Special Services	25,696	23,818	33,686	30,000	38,000
Fire - Emergency Response	186,171	220,211	518,245	41,500	102,000
Fire Service Contract Revenue	928,169	994,744	1,037,771	950,000	1,082,054
Red-light Camera Revenues	7,829	6,312	5,584	-	-
Credit Card Charges	-	-	-	75,000	84,000

General Fund Revenue Details

Proposed FY 2026-2027

	Actual 2022-23	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Park Reservation Fee	7,370	4,870	3,457	-	10,000
Swimming Pool	204,005	195,214	216,986	210,800	263,688
Recreation Programs	676,985	763,503	753,144	742,716	991,850
Zoning Fees	146,606	136,688	94,934	200,000	125,000
Sale of Maps & Publications	-	20	20	50	-
Other Current Service Charges	15,929	1,547	28,718	6,000	6,000
Total Service Fees	**2,882,901**	**2,881,141**	**3,244,917**	**2,598,066**	**3,192,044**
Interest on Investments	(4,299)	(5,087)	(834,893)	-	-
Rents and Royalties	14,840	11,454	19,909	-	-
Antenna Leases	59,789	66,054	52,092	71,000	71,000
Total Interest/Rents	**70,330**	**72,421**	**(762,892)**	**71,000**	**71,000**
Other Revenue	104,177	439,199	441,779	297,551	589,548
Sale-Real Personal Property	-	-	1,103,121	8,000	8,000
Total Other Revenue	**104,177**	**439,199**	**1,544,900**	**305,551**	**597,548**
Sub-Total General	**$ 44,812,045**	**$ 47,020,561**	**$ 47,452,818**	**$ 46,688,749**	**$ 48,921,669**
Transfers & Cost Allocations					
Water	$ 2,230,300	$ 2,569,600	$ 2,569,600	$ 2,486,871	$ 2,794,384
Wastewater	2,268,300	2,562,100	2,562,100	2,483,759	2,619,535
RDA Successor Agency	33,900	31,400	31,900	32,466	32,466
CIP Reimbursement Transfers	820,352	755,599	1,110,272	1,506,463	1,453,398
Lighting & Landscape Maint. Districts	323,400	241,784	221,083	313,404	291,103
Total Cost Allocations	**5,676,252**	**6,160,483**	**6,494,955**	**6,822,963**	**7,190,886**
Streets & Roads	1,517,700	1,747,200	1,886,065	2,109,195	2,528,414
Transportation Development Act	518,300	600,000	757,600	574,000	456,000
Traffic Safety	150,000	150,000	-	315,000	300,000
Suspended Traffic Offender Program	75,000	75,000	45,000	75,000	100,000
Development Impact Fee	50,125	50,100	77,011	77,010	77,000
Pension Stabilization Fund	-	500,000	500,000	500,000	900,000
LAFCO	-	22,181		-	23,000
ARPA Funding	160,915	280,415	6,945,639	640,000	520,000
MOU Set aside	3,692,128	-	-	-	-
Miscellaneous Operating Transfers	3,373	407	77,908	-	30,000
Vehicle Replacement Fund	-	-	-	2,285,722	500,000
General Fund CIP	-	-	-	1,000,000	-
Total Interfund Transfer	**6,167,541**	**3,425,303**	**10,289,223**	**7,575,927**	**5,434,414**
Total Revenue/Transfers	**$ 56,655,838**	**$ 56,606,347**	**$ 64,236,997**	**$ 61,087,639**	**$ 61,546,969**

Discretionary Revenue 4210

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Revised Budget	2026-27 Proposed
Property Tax	17,124,492	17,854,100	19,019,300	19,368,216
Sales Tax	17,609,586	16,529,646	17,078,277	16,902,360
Franchise Fees	2,187,696	2,195,149	2,100,000	2,200,000
Hotel/Motel Surcharge	1,437,403	1,454,039	1,600,000	1,600,000
Business Licenses	1,428,000	1,426,000	1,300,000	1,450,000
Other	659,000	763,000	522,000	700,000
Total Revenue	**40,446,177**	**40,221,934**	**41,619,577**	**42,220,576**

* Balance Transfers In of $1.4 million

General Fund Reserves 110

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Transfers				
Transfer Out	-	-	-	-
Transfer In	-	-	-	1,000,000
Total Net Transfers	**-**	**-**	**-**	**1,000,000**

City Council 1110

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	52,822	53,091	36,000	36,000
Benefits	52,842	54,915	71,722	75,530
Total Salaries & Benefits	**105,664**	**108,006**	**107,722**	**111,530**
Telephone	2,412	3,279	3,100	4,093
Postage & Freight	65	3	50	50
Forms & Supplies	2,064	2,020	2,700	7,200
Printing & Binding	145	-	-	-
Professional Services	8,373	4,714	5,000	5,000
Legal Services	-	-	-	22,000
Professional Development	16,488	12,498	18,900	18,900
Car Allowance	1,080	1,215	500	500
Dues & Subscription	204	-	720	720
Liability Insurance	3,044	3,661	3,698	2,884
Computer Maint/Rep -Isf	-	-	-	31,900
Other Material & Supplies	4,408	6,159	5,500	5,500
Meetings & Events	4,663	2,707	5,000	5,000
Council Outreach	-	-	5,000	5,000
Other Expenditures	**42,946**	**36,257**	**50,168**	**108,747**
Total Expenditures	**148,610**	**144,263**	**157,890**	**220,277**
Revenue				
Water Cost Allocation	-	-	-	122,461
Wastewater Cost Allocation	-	-	-	122,461
Total Revenue	**-**	**-**	**-**	**244,922**
Net City Cost (NCC)	**148,610**	**144,263**	**157,890**	**(24,645)**

City Attorney 1210

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Professional Services	459,391	416,111	415,000	-
Professional Development	-	-	900	-
Other Expenditures	**459,391**	**416,111**	**415,900**	**-**
Total Expenditures	**459,391**	**416,111**	**415,900**	**-**
Net City Cost (NCC)	**459,391**	**416,111**	**415,900**	**-**

City Manager 1305

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	516,360	563,407	538,422	532,314
Wages-Extra Help	736	64,578	6,400	54,486
Overtime	660	3,895	-	-
Benefits	217,789	258,976	250,004	289,185
Salaries & Benefits	**735,545**	**890,856**	**794,826**	**875,985**
Telephone	1,937	2,192	1,954	2,215
Postage & Freight	47	13,897	92	92
Advertising	2,277	2,639	2,800	2,800
Forms & Supplies	3,765	4,444	4,100	4,100
Printing & Binding	-	5,191	300	300
Professional Services	140,894	44,703	12,500	150,000
Professional Development	1,294	2,675	2,500	2,500
Dues & Subscription	2,139	2,142	2,100	2,100
O&M-Office Equipment	5,000	-	-	-
Water & Sewer	351	350	353	353
Liability Insurance	40,984	38,852	37,913	49,516
Computer Maint/Rep - Isf	7,147	5,359	6,216	28,324
Other Material & Supplies	3,951	7,229	6,000	6,000
Other Expenditures	**209,786**	**129,672**	**76,828**	**248,300**
Total Expenditures	**945,331**	**1,020,528**	**871,654**	**1,124,285**
Revenues				
Water Cost Allocation	-	-	74,946	94,054
Wastewater Cost Allocation	-	-	77,058	88,975
Total Revenues	**-**	**-**	**152,004**	**183,029**
Net City Cost (NCC)	**945,331**	**1,020,528**	**719,650**	**941,256**

City Clerk 1710

Proposed FY 2026-2027

Account Descriptions	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	1,999	937	900	900
Wages-Extra Help	25,614	19,452	20,160	23,500
Benefits	1,268	331	341	404
Salaries & Benefits	**28,881**	**20,721**	**21,401**	**24,804**
Telephone	410	784	890	-
Postage & Freight	656	233	500	500
Advertising	14,118	14,007	11,200	11,200
Forms & Supplies	1,968	1,623	3,245	3,245
Professional Services	16,291	40,383	41,200	41,200
Elections	1,329	29,775	50,000	50,000
Legal Services	-	-	-	12,000
Professional Development	6,347	529	2,000	2,000
Dues & Subscription	3,383	2,404	1,733	1,733
O&M-Office Equipment	2,145	1,400	2,900	2,900
Small Tools & Equipment	-	-	550	550
Liability Insurance	53	63	64	-
Computer Maint/Rep -Isf	3,534	7,093	10,333	4,647
Other Material & Supplies	3,941	1,454	500	500
Meetings & Events	180	-	-	-
Other Expenditures	**54,355**	**99,747**	**125,115**	**130,475**
Total Expenditures	**83,236**	**120,467**	**146,516**	**155,279**
Revenues				
Water Cost Allocation	-	-	94,481	92,196
Wastewater Cost Alloc	-	-	94,481	92,196
Total Revenues	**-**	**-**	**188,962**	**184,392**
Net City Cost (NCC)	**83,236**	**120,467**	**(42,446)**	**(29,113)**

Economic Development 4120

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Telephone	(19)	-	-	-
Advertising	14	-	-	-
Professional Services	1,183	-	-	-
Professional Development	-	-	-	-
Other Expenditures	**1,178**	**-**	**-**	**-**
Total Expenditures	**1,178**	**-**	**-**	**-**
Net City Cost (NCC)	**1,178**	**-**	**-**	**-**

City Treasurer 1520

Proposed FY 2026-2027

Account Descriptions	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	905	903	900	900
Benefits	15	15	15	15
Salaries & Benefits	**920**	**918**	**915**	**915**
Professional Services	-	-	5,700	5,700
Professional Development	-	-	1,100	1,100
Dues & Subscription	-	-	575	575
Liability Insurance	-	62	63	-
Other Expenditures	**-**	**62**	**7,438**	**7,375**
Total Expenditures	**920**	**980**	**8,353**	**8,290**
Revenues				
Water Cost Allocation	-	-	-	1,986
Wastewater Cost Alloc	-	-	-	2,338
Total Revenues	**-**	**-**	**-**	**4,324**
Net City Cost (NCC)	**920**	**980**	**8,353**	**3,966**

Finance 1510

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	1,131,886	1,169,974	1,200,882	1,183,574
Wages-Extra Help	45,964	55,522	78,750	23,000
Overtime-Regular	46,809	19,671	20,000	15,000
Benefits	577,042	627,750	633,357	694,560
Salaries & Benefits	**1,801,700**	**1,872,917**	**1,932,989**	**1,916,134**
Telephone	8,415	6,672	7,987	7,480
Postage & Freight	97,510	111,699	117,200	117,200
Advertising	3,833	1,295	5,000	4,000
Forms & Supplies	11,701	9,182	17,800	13,750
Printing & Binding	29,043	33,486	28,000	34,000
Professional Services	372,763	361,517	346,242	260,105
General Legal Services	-	-	-	25,000
Professional Development	5,948	6,185	10,000	10,000
Dues & Subscription	81,983	73,561	74,100	52,700
O&M-Office Equipment	1,684	3,098	6,000	3,000
Vehicle Maint Fuel	1,303	3,667	4,152	2,000
Vehicle Replacement Fee	1,962	-	-	-
Small Tools & Equipment	877	113	1,000	1,000
Safety Equipment	1,543	3,408	600	600
Water & Sewer	960	961	990	990
Uniform/Clothing	378	871	600	300
Liability Insurance	73,126	90,775	85,586	94,357
Computer Maint/Rep -Isf	33,575	34,504	39,931	114,023
Other Material & Supplies	1,765	5,340	350	350
Other Expenditures	**728,367**	**746,333**	**745,538**	**740,855**
Total Expenditures	**2,530,067**	**2,619,250**	**2,678,527**	**2,656,989**
Revenue				
Credit Card Fees	-	-	75,000	84,000
Commerce Bank Rebate	-	-	6,000	6,000
SBFCA Services	-	-	85,000	85,000
RDA Services	-	-	32,466	32,466
ARPA	-	-	40,000	20,000
Water Cost Allocation	-	-	805,183	793,478
Waste Water Cost Allocation	-	-	901,159	958,099
Total Revenue	**-**	**-**	**1,944,808**	**1,979,043**
Net City Cost (NCC)	**2,530,067**	**2,619,250**	**733,719**	**677,946**

Information Technology 1530

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	611,573	672,518	680,904	-
Wages-Extra Help	33,355	32,387	40,104	-
Overtime	1,029	2,180	8,500	-
Benefits	277,309	319,724	326,390	-
Salaries & Benefits	**923,266**	**1,026,809**	**1,055,898**	**-**
Telephone	7,060	5,140	7,200	-
Postage & Freight	536	121	300	-
Forms & Supplies	1,427	1,625	1,150	-
Professional Services	27,213	37,655	31,000	-
Professional Development	21,493	20,418	36,000	-
Dues & Subscription	953	495	850	-
O&M-Office Equipment	95,897	200,758	217,000	-
Vehicle Mtce - ISF	21,735	19,594	7,445	-
Vehicle Maint Fuel	1,447	1,440	1,072	-
Vehicle Lease-Enterprise	-	22,484	23,000	-
Vehicle Replacement Fee	3,795	-	-	-
Water & Sewer	443	443	458	-
Uniform/Clothing	-	-	1,000	-
Liability Insurance	37,447	46,819	47,088	-
Other Material & Supplies	44	91	-	-
Other Expenditures	**219,491**	**357,082**	**373,563**	**-**
Total Expenditures	**1,142,757**	**1,383,891**	**1,429,461**	**-**
Revenues				
Water Cost Allocation	-	-	174,376	200,421
Waste Water Cost Allocation	-	-	213,214	263,156
Total Revenues	**-**	**-**	**387,590**	**463,577**
Net City Cost (NCC)	**1,142,757**	**1,383,891**	**1,041,871**	**(463,577)**

Human Resources 1720

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	553,865	620,530	510,292	612,749
Wages-Extra Help	28,591	56,571	59,100	15,000
Overtime	18,440	13,247	25,000	10,000
Benefits	234,657	245,739	278,074	323,195
Salaries & Benefits	**835,553**	**936,087**	**872,466**	**960,944**
Telephone	3,300	4,794	5,358	4,393
Postage & Freight	961	2,255	1,000	1,000
Advertising	13,290	3,147	7,000	-
Forms & Supplies	27,297	7,169	12,900	12,900
Printing & Binding	1,330	2,171	3,500	3,500
Professional Services	194,126	271,216	221,624	159,351
Legal Services	-	-	-	90,000
Professional Development	16,161	12,156	17,900	17,900
Dues & Subscription	4,161	5,196	6,800	3,000
O&M-Office Equipment	8,197	12,752	21,338	6,000
Vehicle Maint Fuel	831	870	1,500	1,500
Training Program	18,395	19,854	16,000	6,000
Water & Sewer	295	295	304	304
Liability Insurance	34,044	41,682	42,137	48,162
Computer Maint/Rep -Isf	16,424	19,862	23,604	42,995
Employee Onboarding	3,744	2,543	5,000	5,000
Other Expenditures	**342,557**	**405,964**	**385,965**	**402,005**
Total Expenditures	**1,178,110**	**1,342,051**	**1,258,431**	**1,362,949**
Revenues				
Water Cost Allocation	-	-	151,054	123,492
Wastewater Cost Allocation	-	-	203,272	158,208
Total Revenues	**-**	**-**	**354,326**	**281,700**
Net City Cost (NCC)	**1,178,110**	**1,342,051**	**904,105**	**1,081,249**

Planning 1910

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	506,946	512,939	507,807	693,803
Wages-Extra Help	28,343	18,306	-	-
Overtime	3,871	4,208	-	-
Benefits	213,637	216,143	235,134	353,691
Salaries & Benefits	**752,797**	**751,597**	**742,941**	**1,047,494**
Telephone	3,363	3,090	3,712	3,795
Postage & Freight	2,297	3,207	1,800	1,800
Advertising	15,186	11,701	11,100	11,100
Forms & Supplies	3,547	5,599	3,200	3,200
Printing & Binding	1,317	2,793	750	750
Professional Services	122,483	101,125	172,160	128,160
Legal Services	-	-	-	75,000
Professional Development	12,660	6,329	14,300	14,300
Dues & Subscription	1,322	1,200	1,500	1,500
O&M-Office Equipment	1,788	-	2,010	2,010
Vehicle Maint Fuel	92	104	-	-
Small Tools & Equipment	6,892	-	4,800	4,800
Water & Sewer	277	277	285	285
Liability Insurance	31,294	33,055	38,578	54,822
Filing Fees-EIR	-	-	6,038	6,038
Computer Maint/Rep -Isf	7,068	7,093	8,235	29,207
Other Material & Supplies	103	105	1,000	1,000
Other Expenditures	**209,688**	**175,678**	**269,468**	**337,767**
Total Expenditures	**962,485**	**927,275**	**1,012,409**	**1,385,261**
Revenue				
Zoning Fees	-	-	200,000	125,000
DIF - Admin Fee	-	-	77,010	77,000
CDBG Admin	-	-	56,000	56,000
LAFCO	-	-	-	23,000
GIS			75,000	26,000
Total Revenue	**-**	**-**	**408,010**	**307,000**
Net City Cost (NCC)	**962,485**	**927,275**	**604,399**	**1,078,261**

Building 1920

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	577,849	576,320	656,486	494,299
Wages-Extra Help	98,040	65,282	80,200	30,000
Overtime	2,414	2,532	4,000	4,000
Benefits	289,378	308,542	406,987	340,093
Salaries & Benefits	**967,682**	**952,675**	**1,147,673**	**868,392**
Telephone	9,201	7,314	9,758	9,191
Postage & Freight	1,293	902	600	600
Forms & Supplies	8,387	4,642	9,650	9,650
Printing & Binding	1,394	2,448	1,200	1,200
Professional Services	6,540	7,491	44,911	30,000
Legal Services	-	-	-	7,000
Property Abatement	-	-	100,000	100,000
Professional Development	13,113	10,625	10,900	10,900
Dues & Subscription	55,465	53,275	75,000	75,000
O&M-Office Equipment	-	-	3,000	3,000
Special Equipment O&M	-	-	175	175
Vehicle Mtce - ISF	4,451	1,531	4,424	11,478
Vehicle Maint Fuel	9,952	7,516	11,935	11,935
Vehicle Lease-Enterprise	-	17,671	18,000	-
Vehicle Replacement Fee	4,794	-	-	-
Small Tools & Equipment	3,386	2,655	5,000	5,000
Safety Equipment	616	-	1,500	1,500
Water & Sewer	387	388	400	400
Uniform/Clothing	1,132	188	1,100	1,100
Liability Insurance	39,618	48,553	49,127	50,664
Computer Maint/Rep -Isf	16,143	18,378	23,532	55,682
Equipment	-	-	-	-
Other Expenditures	**175,872**	**183,576**	**370,212**	**384,475**
Total Expenditures	**1,143,554**	**1,136,251**	**1,517,885**	**1,252,867**
Revenue				
Building Permits	-	-	1,400,000	1,800,000
Code Violation Fines	-	-	25,000	37,500
Transfer CIP Property Ab	-	-	100,000	-
Total Revenue	**-**	**-**	**1,525,000**	**1,837,500**
Net City Cost (NCC)	1,143,554	1,136,251	(7,115)	(584,633)

Police Department Revenues 2101

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Prop 172 Sales Tax Allocatio	-	-	556,979	560,000
Police Special Events	-	-	-	100,000
Police Special Services	-	-	200,000	228,000
Traffic Transfer	-	-	315,000	300,000
STOP Transfer	-	-	75,000	100,000
Total Revenue	**-**	**-**	**1,146,979**	**1,288,000**

Traffic Education and Enforcement 2110

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	432,183	477,930	375,125	338,181
Wages-Extra Help	-	-	18,000	18,000
Overtime	77,674	88,880	55,670	48,337
Benefits	416,183	390,241	451,296	313,375
Salaries & Benefits	**926,040**	**957,051**	**900,091**	**717,893**
Telephone	2,052	2,156	1,780	596
Advertising	335	240	500	500
Printing & Binding	-	110	200	200
Professional Services	583	847	250	8,250
Legal Services	-	-	-	17,000
Professional Development	1,238	467	2,300	
Vehicle Mtce - ISF	16,339	20,932	36,027	30,260
Vehicle Maint Fuel	10,682	9,660	9,284	9,284
Vehicle Lease-Enterprise	-	-	17,000	-
Vehicle Replacement Fee	23,782	-	-	-
Bldg O&M-Mtce	295	-	-	-
Small Tools & Equipment	21,542	20,876	21,000	13,000
Training Program	282	3,814	4,500	4,500
Uniform/Clothing	1,691	48	1,860	1,860
Liability Insurance	42,880	38,855	39,474	26,874
Computer Maint/Rep -Isf	17,671	19,506	20,589	28,357
Other Material & Supplies	974	-	750	750
Other Expenditures	**140,347**	**117,513**	**155,514**	**141,431**
Total Expenditures	**1,066,387**	**1,074,564**	**1,055,605**	**859,324**
Net City Cost (NCC)	**1,066,387**	**1,074,564**	**1,055,605**	**859,324**

Police Administration 2120

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	816,544	919,545	911,776	756,023
Wages-Extra Help	241	2,795	-	-
Overtime	15,236	22,972	21,150	21,150
Benefits	559,733	690,150	802,158	614,276
Salaries & Benefits	**1,391,754**	**1,635,462**	**1,735,084**	**1,391,449**
Heat & Power	57,114	61,165	74,550	74,550
Telephone	70,988	56,730	59,924	60,089
Postage & Freight	14,026	15,932	15,000	15,000
Forms & Supplies	27,693	24,830	28,500	28,500
Printing & Binding	7,496	10,145	10,000	10,000
Professional Services	23,041	32,822	69,700	84,700
Professional Development	4,309	3,125	2,300	2,300
Dues & Subscription	15,276	15,429	10,000	10,000
Rentals-Bldgs/Equip/Land	6,461	5,758	17,000	2,000
O&M-Office Equipment	214,823	239,890	246,000	26,000
Vehicle Mtce - ISF	3,402	11,482	11,465	8,029
Vehicle Maint Fuel	-	171	100	100
Vehicle Lease-Enterprise	-	26,185	31,500	-
Vehicle Replacement Fee	6,513	-	-	-
Bldg O&M-Mtce	148,093	75,403	35,000	35,000
Small Tools & Equipment	11,206	7,290	7,000	7,000
POST Training	949	105,463	100,000	100,000
Water & Sewer	7,217	7,492	8,231	8,231
Uniform/Clothing	94	-	-	-
Liability Insurance	667,948	777,045	752,714	354,187
Debt Service	142,756	145,840	112,462	112,462
Computer Maint/Rep -Isf	14,216	14,592	61,877	286,819
Equipment	1,475	-	-	-
Other Expenditure	**1,445,096**	**1,636,789**	**1,653,323**	**1,224,967**
Total Expenditures	**2,836,850**	**3,272,251**	**3,388,407**	**2,616,416**
Revenue				
Police False Alarms	-	-	70,000	90,834
Total Revenue	**-**	**-**	**70,000**	**90,834**
Net City Cost (NCC)	2,836,850	3,272,251	3,318,407	2,525,582

Police Investigations 2130

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	1,354,642	1,187,276	1,153,780	845,350
Wages-Extra Help	-	-	-	-
Overtime	187,249	201,779	145,412	141,500
Benefits	1,053,031	1,011,897	1,327,309	719,226
Salaries & Benefits	**2,594,922**	**2,400,951**	**2,626,501**	**1,706,076**
Telephone	3,937	3,528	3,027	1,788
Forms & Supplies	-	30	-	-
Professional Services	257,478	244,025	183,400	61,200
Professional Development	1,199	742	1,500	1,500
Dues & Subscription	338	156	-	-
O&M-Office Equipment	8,322	1,978	11,500	11,500
Special Equipment O&M	-	3,398	17,500	17,500
Vehicle Mtce - ISF	48,658	54,191	41,707	30,155
Vehicle Maint Fuel	25,340	21,326	17,505	11,553
Vehicle Lease-Enterprise	-	69,326	70,500	-
Vehicle Replacement Fee	12,520	-	-	-
Small Tools & Equipment	11,810	13,572	12,000	12,000
Training Program/Aids	2,266	4,232	4,500	4,500
Liability Insurance	101,355	124,304	96,626	66,361
Reimbursable	2,969	-	-	-
Computer Maint/Rep -Isf	36,814	32,120	34,941	73,028
Other Material & Supplies	4,195	638	1,000	1,000
Other Expenditures	**517,200**	**573,565**	**495,706**	**292,085**
Total Expenditures	**3,112,123**	**2,974,517**	**3,122,207**	**1,998,161**
Revenue				
SART Exams	-	-	-	15,000
Total Revenue	**-**	**-**	**-**	**15,000**
Net City Cost (NCC)	**3,112,123**	**2,974,517**	**3,122,207**	**1,983,161**

Special Investigation Unit 2135

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	-	-	-	335,886
Wages-Extra Help	-	-	-	-
Overtime	-	-	-	45,000
Benefits	-	-	-	314,168
Salaries & Benefits	**-**	**-**	**-**	**695,054**
Professional Services	-	-	-	30,000
Vehicle Mtce - ISF	-	-	-	13,303
Vehicle Maint Fuel	-	-	-	5,952
Liability Insurance	-	-	-	26,690
Other Material & Supplies	-	-	-	30,000
Other Expenditures	**-**	**-**	**-**	**105,945**
Total Expenditures	**-**	**-**	**-**	**800,999**
Revenue				
Sutter County	-	-	-	30,000
Total Revenue	**-**	**-**	**-**	**30,000**
Net City Cost (NCC)	**-**	**-**	**-**	**770,999**

Field Operations 2140

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	5,488,407	5,336,587	4,991,790	5,182,599
Wages-Extra Help	96,113	73,975	198,258	160,000
Overtime	1,069,529	1,151,327	941,477	789,109
Benefits	3,613,874	3,804,107	4,025,396	4,345,286
Salaries & Benefits	**10,267,922**	**10,365,996**	**10,156,921**	**10,476,994**
Telephone	12,316	12,348	11,220	10,927
Forms & Supplies	105	58	-	-
Professional Services	36,317	29,758	24,000	24,000
Professional Development	15,705	3,891	11,300	11,300
Dues & Subscription	7,674	15,428	3,000	3,000
Special Equipment O&M	71,320	74,013	70,000	70,000
Vehicle Mtce - ISF	319,887	389,697	470,684	287,803
Vehicle Maint Fuel	211,275	204,323	195,103	195,103
Vehicle Lease-Enterprise	-	31,087	91,300	-
Vehicle Replacement Fee	321,597	-	-	-
Small Tools & Equipment	17,726	15,292	15,000	15,000
Training Program	93,229	82,463	80,000	80,000
Uniform/Clothing	72,894	50,353	43,000	43,000
Liability Insurance	303,927	380,374	383,364	410,960
Reimbursable	27,292	-	-	-
Police Acad Cadet Cost	44,756	42,069	40,000	-
Computer Maint/Rep -Isf	316,653	350,323	433,316	767,570
Other Material & Supplies	18,616	43,913	17,500	17,500
Equipment	-	275,436	73,503	73,503
Other Expenditures	**1,891,288**	**2,000,827**	**1,962,290**	**2,009,666**
Total Expenditures	**12,159,210**	**12,366,823**	**12,119,211**	**12,486,660**
Revenue				
Utilities Transfer	-	-	-	30,000
Training Reimbursement	-	-	100,000	100,000
Total Revenue	**-**	**-**	**100,000**	**130,000**
Net City Cost (NCC)	**12,159,210**	**12,366,823**	**12,019,211**	**12,356,660**

Community Outreach 2150

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	53,397	21,406	-	-
Wages-Extra Help	15,439	-	-	-
Overtime	901	1,087	12,700	-
Benefits	47,241	24,754	7,690	-
Salaries & Benefits	**116,978**	**47,247**	**20,390**	**-**
Telephone	-	-	-	199
Advertising	1,602	2,295	1,500	1,500
Forms & Supplies	998	338	2,000	2,000
Printing & Binding	1,082	16	2,000	2,000
Professional Services	425	624	-	-
Professional Development	101	-	400	400
Dues & Subscription	480	462	100	100
Vehicle Maint Fuel	269	59	904	904
Training Program	2,678	600	750	750
Liability Insurance	3,985	4,938	4,393	-
Computer Maint/Rep -Isf	-	-	-	6,380
Other Material & Supplies	888	3,303	4,000	4,000
Other Expenditures	**12,508**	**12,635**	**16,047**	**18,233**
Total Expenditures	**129,486**	**59,882**	**36,437**	**18,233**
Net City Cost (NCC)	**129,486**	**59,882**	**36,437**	**18,233**

Information Resources 2155

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	84,974	88,803	94,487	99,185
Overtime	2,012	769	3,150	3,150
Benefits	55,407	60,178	63,273	72,473
Salaries & Benefits	**142,393**	**149,750**	**160,910**	**174,808**
Forms & Supplies	81	-	1,000	1,000
Professional Services	41	170	-	-
Professional Development	1,247	1,038	1,000	1,000
Dues & Subscription	288	236	150	150
Training Program	1,524	2,308	2,000	2,000
Liability Insurance	4,756	5,892	6,661	7,873
Other Material & Supplies	2,353	-	2,800	2,800
Other Expenditures	**10,289**	**9,644**	**13,611**	**14,823**
Total Expenditures	**152,682**	**159,394**	**174,521**	**189,631**
Net City Cost (NCC)	**152,682**	**159,394**	**174,521**	**189,631**

Crime Analysis and Intelligence 2160

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	70,017	68,991	67,404	79,866
Overtime	-	1,139	-	-
Benefits	27,508	41,843	51,865	63,030
Salaries & Benefits	**97,525**	**111,972**	**119,269**	**142,896**
Telephone	1,231	1,176	1,068	199
Forms & Supplies	1,187	273	1,100	1,100
Professional Development	375	112	500	500
Dues & Subscription	33	260	100	100
O&M-Office Equipment	-	-	1,950	1,950
Liability Insurance	3,834	4,750	4,798	6,398
Computer Maint/Rep -Isf	10,603	10,640	12,354	11,910
Other Expenditures	**17,263**	**17,211**	**21,870**	**22,157**
Total Expenditures	**114,788**	**129,183**	**141,139**	**165,053**
Net City Cost (NCC)	**114,788**	**129,183**	**141,139**	**165,053**

Communications 2170

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	709,406	926,042	909,575	969,151
Wages-Extra Help	3,793	-	-	-
Overtime	317,895	190,357	246,516	138,202
Benefits	419,046	562,642	719,570	683,873
Salaries & Benefits	**1,450,140**	**1,679,042**	**1,875,661**	**1,791,226**
Telephone	1,231	1,176	2,268	3,385
Forms & Supplies	3,529	1,499	3,500	3,500
Professional Services	624	2,542	14,000	14,000
Professional Development	1,333	5,348	7,500	7,500
Dues & Subscription	1,342	114,112	1,250	1,250
O&M-Office Equipment	-	-	28,550	28,550
Special Equipment O&M	332	-	2,000	2,000
Small Tools & Equipment	5,374	1,966	6,500	6,500
Training Program	1,905	21,081	6,055	6,055
Liability Insurance	41,060	73,112	81,386	76,770
Reimbursable	2,795	2,466	-	-
Computer Maint/Rep -Isf	11,559	11,596	13,310	76,666
Other Expenditures	**71,084**	**234,899**	**166,319**	**226,176**
Total Expenditures	**1,521,224**	**1,913,940**	**2,041,980**	**2,017,402**
Net City Cost (NCC)	**1,521,224**	**1,913,940**	**2,041,980**	**2,017,402**

Fire Administration 2305

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	1,012,138	974,466	913,295	957,318
Wages-Extra Help	-	8,031	13,500	13,500
Overtime	4,111	2,512	5,000	5,000
Benefit	672,040	688,314	802,064	799,598
Salaries & Benefits	**1,688,290**	**1,673,323**	**1,733,859**	**1,775,416**
Telephone	1,847	1,764	1,602	993
Postage & Freight	1,402	1,307	1,500	1,500
Forms & Supplies	-	15	-	-
Printing & Binding	799	722	1,000	1,000
Professional Services	10,283	8,810	45,475	30,475
Professional Development	10,643	7,918	15,600	15,600
Vehicle Mtce - ISF	7,582	10,771	9,873	7,010
Vehicle Maint Fuel	-	1,752	-	-
Vehicle Lease-Enterprise	-	8,648	9,000	-
Vehicle Replacement Fee	2,397	-	-	-
Bldg O&M-Mtce	31	-	500	500
Manuals/Codes	272	156	3,000	3,000
Public Education	3,976	5,783	6,000	6,000
Liability Insurance	58,169	73,652	74,231	119,679
Computer Maint/Rep -Isf	15,904	15,960	18,530	41,117
Other Expenditures	**113,305**	**137,258**	**186,311**	**226,874**
Total Expenditures	**1,801,594**	**1,810,582**	**1,920,170**	**2,002,290**
Revenues				
Fire Permit Fees	-	-	70,000	65,618
Total Revenues	**-**	**-**	**70,000**	**65,618**
Net City Cost (NCC)	**1,801,594**	**1,810,582**	**1,850,170**	**1,936,672**

Fire Operations 2310

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	6,092,037	6,117,466	6,245,972	6,223,682
Wages-Extra Help	-	-	-	-
Overtime	2,173,854	2,496,221	2,051,082	2,050,338
Benefits	4,089,209	4,435,863	4,819,123	5,459,160
Salaries & Benefits	**12,355,100**	**13,049,550**	**13,116,177**	**13,733,180**
Heat & Power	125,992	141,924	177,989	177,989
Telephone	33,014	33,204	48,489	53,479
Forms & Supplies	13,255	11,849	17,200	17,200
Professional Services	39,712	82,797	111,777	83,350
Legal Services	-	-	-	4,000
Professional Development	3,667	86	7,000	-
Dues & Subscription	34,207	27,115	32,500	35,000
O&M-Office Equipment	21,567	27,630	26,382	26,382
O&M-Special Equipment	37,089	18,926	40,954	40,954
Vehicle - O&M	330,563	356,680	399,214	347,465
Vehicle Maint Fuel	125,459	111,277	115,164	115,164
Vehicle Lease-Enterprise	-	39,757	13,500	-
Vehicle Replacement Fee	479,433	303,564	-	-
Bldg O&M-Mtce	116,100	128,067	127,050	128,650
Small Tools & Supplies	65,318	25,469	40,818	38,818
Training Programs	145,212	116,919	156,397	116,399
Water & Sewer	38,995	38,220	43,616	43,616
Uniform/Clothing	39,589	58,843	77,653	74,653
Liability Insurance	333,286	428,360	432,201	485,827
Debt Service	18,167	18,963	19,793	19,793
Computer Maint/Rep -Isf	84,449	91,623	123,158	405,800
Equipment	17,311	-	-	20,000
Other Expenditures	**2,102,384**	**2,061,273**	**2,010,855**	**2,234,539**
Total Expenditures	**14,457,484**	**15,110,823**	**15,127,032**	**15,967,719**
Revenue				
State Mandated Costs	-	-	90,000	90,000
Safer Grant	-	-	266,667	-
Misc Revenue	-	-	73,500	145,000
CSAG	-	-	950,000	1,082,054
Total Revenue	**-**	**-**	**1,380,167**	**1,317,054**
Net City Cost (NCC)	**14,457,484**	**15,110,823**	**13,746,865**	**14,650,665**

Public Works Administration 1905

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	82,808	149,707	306,113	357,786
Wages-Extra Help	4,587	-	-	-
Overtime	1,128	2,020	-	-
Benefits	39,745	88,425	143,441	189,249
Salaries & Benefits	**128,269**	**240,153**	**449,554**	**547,035**
Telephone	-	41	1,678	1,375
Postage & Freight	17	313	31	31
Forms & Supplies	1,467	8,390	2,500	3,100
Printing & Binding	40	-	35	3,000
Professional Services	50,251	83,819	70,900	65,400
Professional Development	2,847	4,890	20,750	3,250
Dues & Subscription	1,402	1,515	2,000	3,000
Vehicle Mtce - ISF	1,695	1,334	948	3,067
Vehicle Maint Fuel	-	-	-	300
Small Tools & Equipment	42	-	300	300
Training Program	-	-	2,000	-
Water & Sewer	96	96	99	99
Liability Insurance	6,271	17,063	14,095	28,410
Computer Maint/Rep -Isf	-	-	2,465	26,847
Other Expenditures	**64,128**	**117,460**	**117,801**	**138,179**
Total Expenditures	**192,396**	**357,613**	**567,355**	**685,214**
Revenue				
Streets & Road Transfer	-	-	108,740	127,302
Water Transfer	-	-	32,055	37,526
Wastewater Transfer	-	-	32,055	37,526
Total Revenue	**-**	**-**	**172,850**	**202,354**
Net City Cost (NCC)	**192,396**	**357,613**	**394,505**	**482,860**

Engineering 1930

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	886,999	1,009,446	1,279,330	1,171,088
Wages-Extra Help	25,300	25,436	15,000	15,000
Overtime	48,942	25,194	9,000	9,000
Benefits	437,147	561,419	633,956	645,970
Salaries & Benefits	**1,398,387**	**1,621,494**	**1,937,286**	**1,841,058**
Telephone	5,765	5,926	5,861	3,485
Postage & Freight	273	71	1,000	377
Advertising	2,220	2,067	2,000	3,500
Forms & Supplies	5,198	9,399	9,895	9,500
Printing & Binding	3,676	3,311	3,500	2,500
Professional Services	47,261	24,667	53,157	51,150
Professional Development	6,981	4,666	6,000	10,000
Dues & Subscription	12,123	10,168	2,000	5,000
O&M-Office Equipment	18,266	22,634	30,582	30,000
Vehicle Mtce - ISF	7,215	2,288	12,140	10,214
Vehicle Maint Fuel	5,908	7,742	6,000	6,000
Vehicle Lease-Enterprise	-	26,766	27,500	-
Vehicle Replacement Fee	863	-	-	-
Small Tools & Equipment	1,246	2,143	1,600	4,000
Water & Sewer	812	813	837	837
Uniform/Clothing	92	456	-	-
Liability Insurance	63,361	89,889	90,315	93,107
Computer Maint/Rep -Isf	44,848	44,213	50,425	97,781
Other Expenditures	**226,109**	**257,219**	**302,812**	**327,451**
Total Expenditures	**1,624,496**	**1,878,713**	**2,240,098**	**2,168,509**
Revenue				
Stormwater Plan Ck/Ins	-	-	15,000	-
Encroachment Permits	-	-	100,000	100,000
Plan Ck/Inspect Fee	-	-	500,000	507,000
Engineer Transfer	-	-	1,350,463	1,397,398
LLMD's Cost Allocation	-	-	37,073	38,361
Water Cost Allocation	-	-	305,528	316,146
Wastewater Cost Allocation	-	-	305,528	316,146
S&R Cost Allocation	-	-	220,208	227,862
Total Revenue	**-**	**-**	**2,833,800**	**2,902,913**
Net City Cost (NCC)	**1,624,496**	**1,878,713**	**(593,702)**	**(734,404)**

Street Maintenance 3130

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	709,865	658,401	755,462	691,824
Wages-Extra Help	39,542	15,222	32,000	32,000
Overtime	29,941	12,779	16,200	16,200
Benefits	394,504	402,809	433,148	488,499
Salaries & Benefits	**1,173,851**	**1,089,211**	**1,236,810**	**1,228,523**
Telephone	9,629	11,036	10,237	7,112
Advertising	88	-	500	-
Forms & Supplies	5,769	2,936	5,800	1,510
Printing & Binding	90	275	100	-
Professional Services	12,791	14,668	16,471	6,850
Professional Development	9,233	6,014	16,500	2,000
Dues & Subscription	3,727	17,237	16,000	16,000
Rentals-Bldgs/Equip/Land	-	4,187	-	-
Special Equipment O&M	14,277	21,818	11,400	10,000
Vehicle Mtce - ISF	93,081	117,946	100,423	126,731
Vehicle Maint Fuel	63,305	53,267	59,750	59,750
Vehicle Lease-Enterprise	-	29,511	30,000	-
Vehicle Replacement Fee	96,532	61,255	61,255	61,256
Bldg O&M-Mtce	417,777	358,468	440,200	442,500
Small Tools & Equipment	31,927	36,810	38,000	40,000
Training Program	2,865	1,069	-	-
Water & Sewer	41,844	41,122	45,751	45,751
Liability Insurance	65,214	65,138	66,460	116,039
Computer Maint/Rep -Isf	19,577	19,644	24,845	49,478
Other Material & Supplies	707	1,277	5,000	-
Equipment	5,866	-	-	-
Other Expenditures	**894,299**	**863,677**	**948,692**	**984,977**
Total Expenditures	**2,068,150**	**1,952,888**	**2,185,502**	**2,213,500**
Streets & Road Transfer	-	-	1,196,191	1,339,100
TDA Transfer	-	-	574,000	456,000
Water Transfer	-	-	452,937	459,308
Wastewater Transfer	-	-	226,469	229,654
Total Revenues	**-**	**-**	**2,449,597**	**2,484,062**
Net City Cost (NCC)	**2,068,150**	**1,952,888**	**(264,095)**	**(270,562)**

Electrical Maintenance 3150

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditure				
Salaries & Wages	107,642	122,798	125,361	348,259
Wages-Extra Help	34,209	23,702	32,400	-
Overtime-Regular	6,609	9,974	9,000	5,400
Benefits	59,034	71,055	69,214	190,154
Salaries & Benefits	**207,494**	**227,528**	**235,975**	**543,813**
Heat & Power	369,551	375,303	427,310	410,000
Telephone	2,870	2,466	4,178	2,600
Postage & Freight	-	18	-	-
Advertising	88	-	500	-
Forms & Supplies	950	2,425	4,250	3,000
Printing & Binding	90	275	500	-
Professional Services	10,786	4,878	12,617	2,000
Professional Development	1,000	3,043	10,000	8,000
Dues & Subscription	3,187	7,164	7,000	5,000
Rental-Tools	-	29,435	20,000	5,000
Special Equipment O&M	952	7,062	13,500	7,500
Vehicle Mtce - ISF	16,165	12,845	22,843	52,471
Vehicle Maint Fuel	5,432	8,130	7,500	7,500
Vehicle Replacement Fee	13,376	-	-	-
Bldg O&M-Mtce	115,315	238,594	136,000	153,000
Small Tools & Equipment	9,964	47,757	30,000	20,000
Training Program	1,532	515	1,500	-
Water & Sewer	5,203	191	207	207
Liability Insurance	4,240	9,008	12,413	27,461
Debt Service	118,844	118,844	118,845	118,845
Computer Maint/Rep -Isf	1,767	1,773	2,059	32,822
Other Expenditures	**681,311**	**869,725**	**831,222**	**855,406**
Total Expenditures	**888,804**	**1,097,253**	**1,067,197**	**1,399,219**
Revenue				
Streets & Road Cost Allocation	-	-	807,277	834,150
Water Cost Allocation	-	-	72,971	79,893
Wastewater Cost Allocation	-	-	72,971	79,893
LMD Cost Allocation	-	-	117,554	128,707
Total Revenue	**-**	**-**	**1,070,773**	**1,122,643**
Net City Cost (NCC)	**888,804**	**1,097,253**	**(3,576)**	**276,576**

Facilities Maintenance 1541

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	451,384	431,107	360,722	355,242
Wages-Extra Help	44,897	68,774	34,450	34,450
Overtime-Regular	7,702	7,236	3,350	3,350
Benefits	245,901	258,846	261,210	238,995
Salaries & Benefits	**749,884**	**765,962**	**659,732**	**632,037**
Heat & Power	165,198	188,295	265,000	265,000
Telephone	28,345	8,640	8,712	5,293
Advertising	88	-	500	-
Forms & Supplies	2,079	1,822	1,850	1,710
Printing & Binding	90	275	-	-
Professional Services	5,501	7,226	6,450	6,480
Professional Development	280	1,157	10,500	7,500
Dues & Subscription	5,720	5,817	6,000	7,000
Special Equipment O&M	4,497	5,077	6,475	6,500
Vehicle Mtce - ISF	5,952	5,401	4,005	6,201
Vehicle Maint Fuel	5,694	4,361	6,725	6,725
Vehicle Lease-Enterprise	-	21,597	22,000	-
Vehicle Replacement Fee	9,887	-	-	-
Bldg O&M-Mtce	135,041	116,727	166,617	96,617
Small Tools & Equipment	6,054	5,302	10,200	7,700
Training Program/Aids	369	83	500	-
Liability Insurance	26,401	33,172	33,185	28,423
Interest	12,750	11,479	10,098	10,098
Principal	42,622	46,319	50,228	50,228
Computer Maint/Rep -Isf	5,301	7,093	8,235	35,587
Other Expenditures	**461,870**	**469,841**	**617,280**	**541,062**
Total Expenditures	**1,211,754**	**1,235,804**	**1,277,012**	**1,173,099**
Revenue				
Water Cost Allocation			270,701	265,017
Wastewater Cost Allocation	-	-	65,488	62,475
Total Revenue	**-**	**-**	**336,189**	**327,492**
Net City Cost (NCC)	**1,211,754**	**1,235,804**	**940,823**	**845,607**

Community Services Admin 5105

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	403,525	343,614	351,971	362,300
Wages-Extra Help	9,092	2,029	-	-
Overtime	2,588	2,141	-	-
Benefits	159,704	181,726	178,377	212,002
Salaries & Benefits	**574,909**	**529,509**	**530,348**	**574,302**
Telephone	2,734	1,783	2,862	2,746
Postage & Freight	34	1	300	300
Forms & Supplies	2,097	2,772	2,100	2,100
Professional Services	3,912	4,451	10,300	10,300
Professional Development	2,967	2,305	2,200	2,200
Dues & Subscription	4,293	1,912	1,320	1,320
O&M-Office Equipment	10,647	10,978	10,750	10,750
Vehicle Maint Fuel	327	217	60	60
Bldg O&M-Mtce	403	813	-	-
Water & Sewer	194	194	201	-
Liability Insurance	21,200	23,266	24,944	28,583
Computer Maint/Rep -Isf	7,068	7,093	8,235	22,827
Other Material & Supplies	998	830	800	-
Other Expenditures	**56,873**	**56,613**	**64,072**	**81,186**
Total Expenditures	**631,782**	**586,123**	**594,420**	**655,488**
Net City Cost (NCC)	**631,782**	**586,123**	**594,420**	**655,488**

Recreation Supervision 5110

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	213,952	168,819	140,457	-
Wages-Extra Help	7,532	9,727	-	-
Overtime	1,819	-	-	-
Benefits	101,666	94,629	121,583	-
Salaries & Benefits	**324,969**	**273,175**	**262,040**	**-**
Heat & Power	1,863	2,331	3,700	-
Telephone	1,759	2,262	4,378	-
Postage & Freight	608	800	500	-
Forms & Supplies	1,334	1,951	1,600	-
Printing & Binding	13,834	367	3,000	-
Professional Services	242	665	1,200	-
Professional Development	428	1,348	2,200	-
Dues & Subscription	492	305	500	-
Vehicle Mtce - ISF	6,945	5,020	15,727	-
Vehicle Maint Fuel	3,674	3,265	3,684	-
Vehicle Replacement Fee	12,854	-	-	-
Bldg O&M-Mtce	-	17	-	-
Water & Sewer	148	148	153	-
Liability Insurance	12,819	16,340	15,972	-
Debt Service	3,621	3,780	3,945	-
Computer Maint/Rep -Isf	1,767	1,773	2,059	-
Other Material & Supplies	622	836	1,031	-
Other Expenditures	**63,010**	**41,209**	**59,649**	**-**
Total Expenditures	**387,979**	**314,384**	**321,689**	**-**
Net City Cost (NCC)	**387,979**	**314,384**	**321,689**	**-**

Senior Center 5120

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	96,991	96,689	95,101	96,186
Wages-Extra Help	20,051	22,996	18,160	25,000
Overtime	-	-	450	450
Benefits	49,799	54,056	53,928	62,543
Salaries & Benefits	**166,841**	**173,741**	**167,639**	**184,179**
Heat & Power	16,002	19,441	19,245	19,245
Telephone	3,315	1,276	4,646	3,400
Postage & Freight	323	279	350	350
Forms & Supplies	1,583	2,296	2,800	2,800
Printing & Binding	-	105	2,000	2,000
Professional Services	367	825	300	300
Professional Development	150	695	1,150	1,150
Dues & Subscription	-	-	50	50
O&M-Office Equipment	679	-	693	693
Bldg O&M-Mtce	54,354	47,295	17,807	17,807
Water & Sewer	3,728	3,801	4,098	4,098
Liability Insurance	5,421	6,618	6,684	7,560
Debt Service	3,172	3,311	3,456	3,456
Computer Maint/Rep -Isf	10,603	12,652	14,651	6,691
Other Expenditures	**99,697**	**98,594**	**77,930**	**69,600**
Total Expenditures	**266,539**	**272,335**	**245,569**	**253,779**
Net City Cost (NCC)	**266,539**	**272,335**	**245,569**	**253,779**

Aquatics 5130

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Revised Budget	2025-26 Projected Actuals	2026-27 Proposed
Expenditures					
Salaries	40,792	88,933	87,788	89,289	90,944
Wages-Extra Help	20,494	25,835	12,900	12,380	25,000
Overtime	-	-	-	-	-
Total Benefits	35,624	61,029	53,565	65,794	60,714
Salaries & Benefits	**96,910**	**175,796**	**154,253**	**167,463**	**176,658**
Heat & Power	87,687	100,133	104,580	101,600	104,580
Telephone	8,463	2,696	9,567	3,767	8,855
Postage & Freight	60	3	600	100	600
Advertising	172	79	1,200	200	1,200
Forms & Supplies	4,147	3,065	4,800	3,250	4,800
Printing & Binding	65	312	500	350	500
Professional Services	9,570	6,706	4,500	4,077	4,500
Professional Development	2,045	1,083	1,200	1,200	1,200
Dues & Subscription	3,751	3,258	4,150	4,150	4,150
O&M-Office Equipment	1,021	-	1,032	-	1,032
Special Equipment O&M	15,706	13,033	12,000	13,700	12,000
Vehicle Maint Fuel	-	83	-	-	-
Bldg O&M-Mtce	54,174	56,950	57,600	46,600	57,600
Chemicals	38,730	47,853	43,880	40,000	43,880
Tools,Supplies,Equip <5K	679	2,246	500	500	500
Training Program/Aids	11,568	12,248	11,500	11,500	11,500
Water & Sewer	23,742	21,018	28,215	28,215	28,215
Liability Insurance	5,960	7,278	6,174	6,174	7,148
Debt Service	415,447	420,042	424,707	424,707	424,707
Computer Maint/Rep -Isf	7,307	7,332	8,474	8,474	3,926
Other Material & Supplies	3,984	3,872	3,845	3,845	3,845
Recreation Programs	180	-	-	-	-
Other Expenditures	**694,457**	**709,289**	**729,024**	**702,409**	**724,738**
Total Expenditures	**791,367**	**885,086**	**883,277**	**869,872**	**901,396**
Net City Cost (NCC)	**791,367**	**885,086**	**883,277**	**869,872**	**901,396**

Park Maintenance 5115

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Revised Budget	2025-26 Projected Actuals	2026-27 Proposed
Expenditures					
Salaries	653,221	583,892	509,555	471,763	481,658
Wages-Extra Help	46,326	25,150	14,500	17,584	25,000
Overtime	41,047	34,220	41,750	26,332	41,750
Total Benefits	399,829	398,231	419,051	373,001	333,010
Salaries & Benefits	**1,140,424**	**1,041,493**	**984,856**	**888,680**	**881,418**
Heat & Power	42,302	44,875	35,000	35,000	15,000
Telephone	6,278	8,178	7,400	2,890	8,695
Postage & Freight	124	16	150	-	150
Forms & Supplies	1,914	1,266	1,050	850	1,050
Printing & Binding	61	-	100	-	100
Professional Services	40,353	23,901	57,851	37,500	51,700
Professional Development	11,916	18,093	20,000	12,000	15,000
Dues & Subscrptn	1,054	1,911	3,000	3,000	5,000
Rentals-Bldgs/Equip/Land	1,308	2,741	5,000	3,000	5,000
Spec O&M-Mech Supplies	15,544	14,301	15,200	15,200	15,200
Vehicle Mtce - ISF	78,200	97,222	136,728	136,728	114,077
Vehicle Maint Fuel	61,167	53,597	52,823	52,800	52,823
Vehicle Lease-Enterprise	-	64,210	64,000	64,000	-
Vehicle Replacement Fee	79,337	-	-	-	-
Bldg O&M-Mtce	242,307	295,886	262,147	236,900	253,910
Tools,Supplies,Equip <5K	24,995	23,716	23,637	20,000	23,637
Safety Equipment/First Aid	15,420	14,925	13,500	13,500	13,500
Water & Sewer	138,516	139,496	155,155	155,155	155,155
Liability Insurance	45,494	46,789	46,651	46,651	37,387
Debt Service	6,310	6,586	6,875	6,875	6,875
Computer Maint/Rep -Isf	7,068	8,867	10,295	10,295	74,788
Equipment	-	11,166	-	-	-
Other Expenditures	**819,668**	**877,742**	**916,562**	**852,344**	**849,047**
Total Expenditures	**1,960,092**	**1,919,235**	**1,901,418**	**1,741,024**	**1,730,465**
Revenue					
Park Rentals	-	-	-	-	10,000
Water Cost Allocation	-	-	161,425	161,425	151,319
Wastewater Cost Allocation	-	-	161,425	161,425	151,319
LLMD Cost Allocation	-	-	132,319	132,319	124,035
Total Revenue	**-**	**-**	**455,169**	**455,169**	**436,673**
Net City Cost (NCC)	**1,960,092**	**1,919,235**	**1,446,249**	**1,285,855**	**1,293,792**

Recreational Programs 5200

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Revised Budget	2025-26 Projected Actuals	2026-27 Proposed
Expenditures					
Salaries	-	-	-	-	-
Wages-Extra Help	364,694	369,492	497,162	462,672	424,680
Overtime	-	-	-	-	-
Total Benefits	31,615	31,071	-	-	-
Salaries & Benefits	**396,309**	**400,563**	**497,162**	**462,672**	**424,680**
Professional Services	-	1,519	-	-	-
Other Material & Supplies	5,001	1,094	-	-	-
Recreation Propgrams	262,813	236,002	229,005	211,423	216,197
Capital Acquisition	24,712				
Other Expenditures	**292,526**	**238,615**	**229,005**	**211,423**	**216,197**
Total Expenditures	**688,836**	**639,178**	**726,167**	**674,095**	**640,877**
Revenue					
Program Revenue	963,587	973,587	953,516	1,057,603	1,255,538
Total Revenue	**963,587**	**973,587**	**953,516**	**1,057,603**	**1,255,538**
Net City Cost (NCC)	**(274,752)**	**(334,409)**	**(227,349)**	**(383,508)**	**(614,661)**

Animal Services 4110

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Revised Budget	2025-26 Projected Actuals	2026-27 Proposed
Expenditures					
Professional Services	1,071,996	1,122,016	1,292,234	1,292,234	1,394,341
Debt Service	12,535	13,744	35,000	35,000	35,000
Other Expenditures	**1,084,531**	**1,135,760**	**1,327,234**	**1,327,234**	**1,429,341**
Total Expenditures	**1,084,531**	**1,135,760**	**1,327,234**	**1,327,234**	**1,429,341**
Revenue					
Other Revenue	-	-	156,551	156,551	158,548
Total Revenue	**-**	**-**	**156,551**	**156,551**	**158,548**
Net City Cost (NCC)	**1,084,531**	**1,135,760**	**1,170,683**	**1,170,683**	**1,270,793**

Contingency 4215

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Revised Budget	2025-26 Projected Actuals	2026-27 Department Budget
Expenditures					
Contingency	-	-	85,000	85,000	500,000
Total Expenditures	**-**	**-**	**85,000**	**85,000**	**500,000**
Revenue					
Transfer In	-	-	-	-	500,000
Total Revenues	**-**	**-**	**-**	**-**	**500,000**
Net City Cost	**-**	**-**	**85,000**	**85,000**	**-**

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Revised Budget	2026-27 Proposed
Expenditures				
Advertising	2,176	-	5,500	5,500
Professional Services	18,127	10,155	7,500	39,500
Levee Assessments	11,840	11,986	12,000	12,000
Legal Services	-	-	-	100,000
Professional Development	35,624	32,491	-	-
Dues & Subscription	101,822	108,732	110,000	110,000
Rentals-Bldgs/Equip/Land	7,280	12,480	6,240	6,240
TOT Reconciliation	236,783	108,348	96,000	96,000
Other Material & Supplies	3,387	2,417	-	-
Contributions	32,628	22,221	31,000	6,000
Tourism/Special Events	22,500	27,175	26,000	145,500
Sutter County MT Agmt	575,725	503,108	585,000	515,000
Sut Co Prop Tax Admin Fees	-	-	232,091	235,955
Workforce Excellence	-	-	-	20,000
Total Expenditures	**1,047,892**	**839,113**	**1,111,331**	**1,291,695**
Revenue				
Water Cost Allocation	-	-	-	57,088
Wastewater Cost Alloc	-	-	-	57,088
Total Revenues	**-**	**-**	**-**	**114,176**
Net City Cost	**1,047,892**	**839,113**	**1,111,331**	**1,177,519**

ENTERPISE FUNDS

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Enterprise Funds Revenue Details

Proposed FY 2026-2027

	Actual 2022-23	Actual 2023-24	Actual 2024-25	Adopted/ Ammended 2025-26	Projected 2025-26	Proposed 2026-27
Water Sales	$ 14,750,660	$ 15,756,749	$ 17,286,828	$ 17,000,000	$ 19,000,000	$ 19,500,000
Hydrants	1,252	1,776	3,883	2,000	2,000	2,000
Water Meters - Labor	121,862	27,885	131,867	40,000	50,000	40,000
Penalties	188,805	233,521	258,252	225,000	250,000	225,000
Tap Machine	70,235	6,330	118,338	35,000	55,000	45,000
Backflow Prevention Fees	25,385	1,914	28,511	23,500	15,000	20,000
Interest on Investments	323,971	25,608	641,652	100,000	100,000	250,000
State Grants	877,217	622,513	828,061	-	-	-
Other Revenue	323,367	220,045	3,887	47,500	53,717	48,500
Total Water Operating Fund	**16,682,755**	**16,896,342**	**19,301,278**	**17,473,000**	**19,525,717**	**20,130,500**
Water Main Extension Fees	13,344	36	60,207	7,500	80,000	50,000
Water Connection Fees	246,709	798,096	974,202	650,000	950,000	650,000
Water Meters - Materials	19,689	76,977	89,527	50,000	100,000	50,000
Interest on Investments	333,401	543,239	357,484	121,000	121,000	165,000
HWS Surcharge - Region 1	159,068	155,563	169,778	150,000	144,196	150,000
HWS Surcharge - Region 2/3	518,810	503,856	555,783	500,000	487,450	475,000
Total Water Capital Fund	**1,291,022**	**2,077,768**	**2,206,982**	**1,478,500**	**1,882,646**	**1,540,000**
Sub-total Water Funds	**17,973,776**	**18,974,110**	**21,508,260**	**18,951,500**	**21,408,363**	**21,670,500**
Wastewater Service Charges	16,618,212	17,003,983	17,256,245	17,000,000	17,100,000	18,500,000
Sunsweet-Operation & Maint.	1,506,231	1,462,682	2,247,828	1,650,000	1,550,000	2,000,000
Sunsweet-Capital Charges	32,362	-	-	-	-	-
Sunsweet-Debt Service	7,040	-	-	-	-	-
Septage Charges	201,668	340,367	393,004	305,000	300,000	300,000
Wastewater Lab Testing Fees	498,840	1,399,796	559,491	700,000	540,000	600,000
Pretreatment Permits	-	10,018	7,360	8,800	8,800	7,500
Stonegate Service Charges	77,672	81,614	82,229	80,000	80,000	80,000
Arrearage Revenue	-	-	-	-	-	-
Interest on Investments	338,564	590,959	682,789	149,000	149,900	250,000
Lease Payments	30,000	30,000	30,000	30,000	30,000	30,000
Transfer From Other Funds	772,391	-	-	-	-	-
Other Revenue	83,358	36,121	(13,815)	1,500	650	1,500
Total Wastewater Operating	**20,166,338**	**20,955,539**	**21,245,131**	**19,924,300**	**19,759,350**	**21,769,000**
Wastewater Main Extension Fees	10,954	1,958	22,809	5,000	60,000	20,000
Wastewater Connection Fees	376,984	355,179	906,810	500,000	700,000	500,000
Special Connection Fee	20,381	87,572	355,388	100,000	150,000	100,000
Interest on Investments	283,231	513,539	482,626	115,000	115,000	200,000
Total Wastewater Capital Fund	**691,550**	**958,247**	**1,767,633**	**720,000**	**1,025,000**	**820,000**
Sub-total Wastewater Funds	**20,857,888**	**21,913,786**	**23,012,764**	**20,644,300**	**20,784,350**	**22,589,000**
Total Enterprise Revenue	**$ 38,831,664**	**$ 40,887,896**	**$ 44,521,024**	**$ 39,595,800**	**$ 42,192,713**	**$ 44,259,500**

Water Fund Proforma Analysis

Proposed FY 2026-2027

	Actual FY 2022-23	Actual FY 2023-24	Actual FY 2024-25	Projected FY 2025-26	Adopted/ Amended FY 2025-26	Proposed FY 2026-27
Beginning Balance						
Operating/CIP Beginning Balance	24,956,426	26,997,506	26,561,923	23,036,490	23,036,490	23,036,490
Bond Proceeds Beginning Balance	-	-	-	-	-	-
Total Beginning Balance	24,956,426	26,997,506	26,561,923	23,036,490	23,036,490	23,036,490
Operating Revenues						
Water Sales	14,750,660	15,756,749	17,286,828	19,000,000	17,000,000	19,500,000
Water Connection Fees	246,709	798,096	974,202	950,000	650,000	650,000
Hydrant Fees	1,252	1,776	3,883	2,000	2,000	2,000
Water Main Extension Fees	13,344	36	60,207	80,000	7,500	50,000
Water Meter Materials	19,689	76,977	89,527	100,000	50,000	50,000
Water Meter Labor	121,862	27,885	131,867	50,000	40,000	40,000
Penalties	188,805	233,521	258,252	250,000	225,000	225,000
Tap Machine	70,235	6,330	118,338	55,000	35,000	45,000
Fire System Flow Test	3,681	1,914	3,591	6,391	2,500	2,500
Backflow Prevention Fees	25,385	25,608	28,511	15,000	23,500	20,000
Interest Earnings @3%	(0)	0	1,073,810	221,000	221,000	415,000
Other Revenues	319,686	126,222	794,527	53,717	47,500	48,500
Region 1 Surcharge	159,068	155,563	151,085	144,196	150,000	150,000
Region 2/3 Surcharge	518,810	503,856	499,802	487,450	500,000	475,000
Sub-Total	$16,439,187	$17,714,534	$21,474,427	$21,414,754	$18,954,000	$21,673,000
Operating Expenses						
Salaries & Benefits	3,391,961	3,836,784	3,917,629	4,161,201	3,932,232	4,153,078
Materials, Supplies, & Services	6,101,392	6,607,951	4,608,791	5,249,577	5,200,558	5,282,240
Power and Utilities	1,243,563	1,391,712	1,605,603	1,686,315	1,686,315	1,773,065
Contributions to Other Funds	0	-	2,709,600	2,636,871	2,636,871	2,944,384
Sub-Total	$10,736,916	$11,836,446	$12,841,622	$13,733,964	$13,455,976	$14,152,767
Net Operating Revenues	5,702,270	5,878,088	8,632,805	7,680,790	5,498,024	7,520,233
Debt Service						
2005/2013 Water COP Debt Serv (P & I)	1,384,522	1,388,575	1,387,675	1,388,700	1,388,700	1,387,340
B of A - Opterra	172,250	179,810	187,687	195,894	195,894	204,446
2017 CREB's Water Bond	196,062	196,062	132,448	162,281	162,281	166,521
SRF Loan - Smart Meter Replacement	237,208	354,985	354,985	354,985	354,985	354,985
SRF Loan - Region 1	378,512	378,512	378,512	378,512	378,512	378,512
SRF Loan - Region 2/3	1,150,024	1,150,024	1,150,024	1,150,024	1,150,024	1,150,024
Total Debt Service	3,518,577	3,647,968	3,591,330	3,630,396	3,630,396	3,641,828
Debt Coverage Ratio (min = 1.20)	**1.62**	**1.61**	**2.40**	**2.12**	**1.51**	**2.06**
Other Revenue						
DWR Conservation Grant	-	-	39,855	591,591	591,591	551,736
FEMA	-	-	781,517	-	-	-
SRF Smart Meter	877,217	-		-	-	-
Other State Revenue	-	26,231	1,336,851	3,728,046	3,728,046	3,728,046
Interest Earning	466,893	1,641,247	-	-	-	-
Contributed Capital/Sale of Property	-	67,593	(6,024)	-	-	-
Amortization Expense	(49,241)	(49,241)	(49,241)	-	-	-
Transfer In/Out	(150,000)	(175,000)	-	140,000	140,000	150,000
Incentive from PG&E	-	-	-	-	-	-
Total Other Revenue	1,144,869	1,510,830	2,102,958	4,459,637	4,459,637	4,429,782
Cap Acq/Transfers						
Capital Acquisitions/Equipment	12,651	39,259	19,416	7,000	7,000	0
Capital Contributions to ISFs	0	0	0	0	0	0
Total Cap Acq/Transfers	12,651	39,259	19,416	7,000	7,000	0

Water Fund Proforma Analysis

Proposed FY 2026-2027

	Actual FY 2022-23	Actual FY 2023-24	Actual FY 2024-25	Projected FY 2025-26	Adopted/ Amended FY 2025-26	Proposed FY 2026-27
CIP Expenditures						
Water CIP Projects	2,402,151	$4,044,076	$8,952,742	18,757,800	18,757,800	23,884,008
Total CIP Expenditures	$2,402,151	$4,044,076	$8,952,742	$18,757,800	$18,757,800	$23,884,008
Net Op Rev after D/S, Cap Acq & CIP Xfers	(231,108)	(1,853,215)	(3,930,683)	(14,714,406)	(16,897,172)	(20,005,603)
Year-End	$25,870,186	$26,655,121	$24,734,199	$12,781,721	$10,598,955	$7,460,669

Water Distribution 7110

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	715,956	756,038	794,337	814,687
Extra Help	4,446	-	45,000	45,000
Overtime-Regular	49,619	41,066	12,000	12,000
Benefits	408,605	441,106	455,937	550,272
Salaries & Benefits	**1,178,626**	**1,238,210**	**1,307,274**	**1,421,959**
Telephone	6,090	8,245	6,534	8,534
Postage & Freight	1,915	4,189	5,000	5,000
Advertising	568	-	-	-
Forms & Supplies	2,998	2,536	3,300	4,050
Printing & Binding	1,116	275	2,000	2,000
Professional Services	16,086	19,846	18,500	20,500
Professional Development	18,143	4,724	13,500	13,500
Dues & Subscription	9,237	12,373	17,800	17,800
Rentals-Bldgs/Equip/Land		4,187	5,000	5,000
Special Equipment O&M	36,233	9,814	40,200	70,000
Vehicle Mtce - Isf	51,503	48,487	42,506	42,506
Vehicle Maint Fuel	32,643	30,462	35,000	35,000
Vehicle Lease-Enterprise	-	26,085	26,100	26,100
Vehicle Replacement Fee	74,733	72,515	63,915	63,915
Bldg O&M-Mtce	194,313	274,610	271,169	299,700
Backflow	-	-	-	15,000
Small Tools & Equipment	37,271	26,303	27,000	30,000
Training Program	13,924	9,914	6,500	6,500
Water & Sewer	1,790	2,010	2,183	2,183
Liability Insurance	184,594	221,433	211,146	211,146
Computer Maint/Rep -Isf	16,425	-	11,216	11,216
Other Material & Supplies	2,313	4,826	6,000	6,000
Wellness Program	-	-	2,257	-
Other Expenditures	**701,894**	**782,832**	**816,826**	**895,650**
Total Expenditures	**1,880,520**	**2,021,042**	**2,124,100**	**2,317,609**
Revenue				
Revenue	63,514	287,003	103,000	110,500
Total Revenue	**63,514**	**287,003**	**103,000**	**110,500**
Net Budget Impact	**1,817,006**	**1,734,039**	**2,021,100**	**2,207,109**
Depreciation	**3,311,927**	**3,261,693**	**3,191,727**	**3,191,727**

Water Treatment Plan 7120

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	1,560,651	1,595,526	1,626,230	1,620,853
Wages-Extra Help	6,202	-	15,000	15,000
Overtime-Regular	116,127	183,149	80,500	82,300
Benefits	805,093	900,744	903,228	1,012,966
Salaries & Benefits	**2,488,074**	**2,679,419**	**2,624,958**	**2,731,119**
Heat & Power	1,376,350	1,590,852	1,670,000	1,754,750
Telephone	9,272	6,506	9,781	9,781
Postage & Freight	1,170	1,894	6,000	1,000
Advertising	4,930	-	2,500	2,500
Forms & Supplies	3,790	4,515	8,600	8,600
Printing & Binding	1,257	-	5,000	3,000
Professional Services	360,713	312,740	469,492	426,225
Professional Development	11,296	17,080	18,000	18,000
Dues & Subscription	170,494	213,584	240,087	125,000
Regulatory Fees		8,878	-	100,000
Rentals-Bldgs/Equip/Land	9,482	1,450	3,000	5,000
Special Equipment O&M	359,700	456,138	519,737	613,750
Vehicle Mtce - Isf	14,313	26,946	9,092	9,092
Vehicle Maint Fuel	10,076	7,284	10,000	10,000
Vehicle Replacement Fee	13,000	4,200	14,100	14,100
Bldg O&M-Mtce	117,963	97,907	193,967	148,000
Chemicals	590,669	595,615	778,000	815,500
Small Tools & Equipment	29,492	19,880	22,500	27,000
Training Program	9,217	5,061	10,500	10,000
Water & Sewer	1,390,961	1,464,598	1,500,775	1,500,775
Liability Insurance	352,856	475,842	411,255	411,255
Debt Transfer Out	1,375,799	1,307,259	1,571,434	1,570,134
Computer Maint/Rep -Isf	108,932	114,951	166,760	166,760
Other Material & Supplies	4,640	3,491	10,000	7,500
Equipment	-	-	7,000	-
Wellness Program	2,199	650	17,151	-
Operating Transfers Out	2,924,585	2,924,585	2,486,871	2,794,384
Oper Trsf-Sewer Lab Svcs	175,000	140,000	150,000	150,000
Other Expenditures	**9,428,157**	**9,801,905**	**10,311,602**	**10,702,106**
Total Expenditures	**11,916,231**	**12,481,324**	**12,936,560**	**13,433,225**
Revenue				
Revenue	16,832,828	19,014,275	17,370,000	20,020,000
Total Revenue	**16,832,828**	**19,014,275**	**17,370,000**	**20,020,000**
Net Budget Impact	**(4,916,598)**	**(6,532,951)**	**(4,433,440)**	**(6,586,775)**
Depreciation	**2,093,879**	**2,061,850**	**2,102,116**	**2,102,116**

Water – Capital Connection Fees 509

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Debt Service Transfer Out	1,148,915	1,148,237	1,149,854	1,149,174
Other Expenditures	**1,148,915**	**1,148,237**	**1,149,854**	**1,149,174**
Total Expenditures	**1,148,915**	**1,148,237**	**1,149,854**	**1,149,174**
Revenue				
Water Main Ext Fees	36	60,207	7,500	50,000
Water - Connection Fees	798,096	974,202	650,000	650,000
Water-Meter Material	76,977	89,527	50,000	50,000
Interest on Investment	453,109	357,484	110,500	150,000
Total Revenue	**1,328,219**	**1,481,421**	**818,000**	**900,000**
Net Budget Impact	**(179,304)**	**(333,184)**	**331,854**	**249,174**

Water – HWS Surcharge Region -1 533-7341

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Professional Services	750	750	-	750
Interest	73,390	65,709	58,471	50,414
Principal	304,517	312,183	320,041	328,098
Other Expenditures	**378,657**	**378,642**	**378,512**	**379,262**
Total Expenditures	**378,657**	**378,642**	**378,512**	**379,262**
Revenue				
Customer SRF Surcharge	155,563	151,085	150,000	150,000
Debt Service Transfer In	222,944	222,944	222,944	222,944
Interest on Investment	22,541	18,693	4,000	10,000
Total Revenue	**401,047**	**392,721**	**376,944**	**382,944**
Net Budget Impact	**(22,391)**	**(14,080)**	**1,568**	**(3,682)**

Water – HWS Surcharge Region – 2/3 534-7342

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Professional Services	750	750	-	750
Interest	205,497	183,805	163,404	140,745
Principal	942,816	964,469	986,620	1,009,278
Other Expenditures	**1,149,063**	**1,149,024**	**1,150,024**	**1,150,774**
Total Expenditures	**1,149,063**	**1,149,024**	**1,150,024**	**1,150,774**
Revenue				
Customer SRF Surcharge	503,856	499,802	500,000	475,000
Debt Service Transfer In	677,364	677,364	677,364	677,364
Interest on Investment	67,589	55,981	6,500	5,000
Total Revenue	**1,248,809**	**1,233,147**	**1,183,864**	**1,157,364**
Net Budget Impact	**(99,746)**	**(84,124)**	**(33,840)**	**(6,590)**

Wastewater Fund Proforma Analysis

Proposed FY 2026-2027

	Actual FY 2021-22	Actual FY 2022-23	Actual FY 2023-24	Actual FY 2024-25	Projected FY 2025-26	Adopted/ Amended FY 2025-26	Proposed FY 2026-27
Beginning Balance							
Operating/CIP Beginning Balance	26,746,838	26,209,481	26,881,600	27,440,221	28,506,332	27,440,221	28,506,332
Bond Proceeds Beginning Balance	-	-	-	-	-	-	-
Total Beginning Balance	26,746,838	26,209,481	26,881,600	27,440,221	28,506,332	28,506,332	28,506,332
Operating Revenues							
Sewer Sales	17,099,168	18,403,783	18,898,662	19,979,306	19,030,000	19,035,000	20,880,000
Sewer Connection Fees	802,695	376,984	355,179	906,810	700,000	500,000	500,000
Special Sewer Connection Fees (Bogue)	33,882	20,381	87,572	355,388	150,000	100,000	100,000
Sewer Main Extension Fees	(20,251)	10,954	1,958	22,809	60,000	5,000	20,000
Sunsweet Capital Charges	35,304	32,362	-	-	-	-	-
Sunsweet Debt Service Charges	7,680	7,040	-	-	-	-	-
Interest Earnings @3%	0	-	-	1,165,415	264,900	264,000	450,000
Sewer Lab Tests	179,821	306,651	435,216	409,491	540,000	700,000	600,000
Contribution from Water Fund - lab	0	-	-	140,000	0	0	0
Other Revenues	10,999	63,978	2,341	39,383	39,450	40,300	39,000
Sub-Total	$18,149,298	$19,222,133	$19,780,928	$23,018,602	$20,784,350	$20,644,300	$22,589,000
Operating Expenses							
Salaries & Benefits	3,793,558	4,652,088	5,471,940	5,267,923	5,644,811	5,824,353	6,016,276
Materials, Supplies, & Services	6,605,407	7,130,895	8,229,782	6,857,960	5,755,914	5,736,384	5,693,268
Power and Utilities	518,897	654,383	763,114	794,396	875,000	875,000	920,000
Contributions to Other Funds	0	-	-	2,562,100	2,483,759	2,483,759	2,619,535
Sub-Total	$10,917,862	$12,437,367	$14,464,836	$15,482,379	$14,759,484	$14,919,496	$15,249,079
Net Operating Revenues	7,231,436	6,784,766	5,316,092	7,536,223	6,024,866	5,724,804	7,339,921
Debt Service							
2017 (refunding of 2011) WWRC Debt Serv (P & I)	347,535	325,412	325,646	1,085,495	1,081,478	1,081,478	1,082,968
2014 WWRC Debt Serv (refunding 2007) (P & I)	758,049	757,973	758,239	-	-	-	-
2018 WW Revenue Bonds	1,445,000	1,297,706	1,298,206	1,297,456	1,295,456	1,295,456	1,297,206
B of A - OpTerra	21,925	22,889	23,894	24,940	26,031	26,031	27,167
2017 WW Bond CREBs	260,601	328,329	355,329	355,913	278,911	278,911	283,339
Solar Lease Debt Service	173,315	173,315	173,315	173,315	173,315	173,315	173,315
SRF Loan (P & I) - 541	198,502	195,400	195,400	195,400	195,400	195,400	195,400
SRF Loan (P & I) - 542	338,503	336,099	311,518	347,685	385,884	385,884	385,884
Total Debt Service	3,543,429	3,437,123	3,441,546	3,480,204	3,436,475	3,436,475	3,445,280
Debt Coverage Ratio (min = 1.20)	**2.15**	**2.08**	**1.63**	**2.28**	**1.85**	**1.75**	**2.24**
Other Revenue							
Grant Revenue	273,509	-	31,539	1,248,507	-	-	-
Lease Proceeds		30,000	30,000	-	-	-	-
Sale of Property/Contributed Capital	219,049	19,380	2,762	(15,838)	-	-	-
Interest Income	(565,536)	415,491	1,626,826	-	-	-	-
Amortization Expense/COI Refund	(51,578)	(51,578)	(17,810)	(17,810)	-	-	-
Transfers In/Out	(118,511)	-	175,000	8,569	-	-	-
Total Other Revenue	(243,067)	413,293	1,848,316	1,223,427	-	-	-
Cap Acq/Transfers							
Capital Acquisitions/Equipment	11,005	309,094	40,455	36,872	315,915	75,000	75,000
CIP Expenditures							
WWTF Improvements	278,809						
Sewer Plant CIP Projects	3,692,484	2,355,587	2,714,869	4,919,032	3,091,000	3,091,000	3,091,000
Total CIP Expenditures	$3,971,293	$2,355,587	$2,714,869	$4,919,032	$3,091,000	$3,091,000	$3,091,000
Net Op Rev after D/S, Cap Acq & CIP Xfers	3,677,002	3,038,549	1,834,091	4,019,148	2,272,476	2,213,329	3,819,641
Year-End	$26,209,481	$27,305,736	$27,849,137	$27,763,764	$27,687,808	$27,628,661	$29,234,972
Fund 528-WW CIP Cash	$26,936,133	$23,392,175	$20,907,206	18,968,110	-	-	-
Fund 518-WW Operating Cash	878,275	1,595,530	4,285,911	6,698,484	-	-	-
Fund 518-WW Operating - SRF Reserve Cash	388,358	388,358	388,358	388,358	-	-	-
Fund 527-Connection Fee Cash	852,442	776,613	1,044,013	1,552,905	-	-	-
Fund 527-Connection Fee-Reserved Cash	728,924	728,924	728,924	728,924	-	-	-
Fund 535 - WW 2011 Bond		-	-	-	-	-	-
Fund 538 - WW 2017 CREBS (Interest Subsidy)		-	85,809	169,551	-	-	-
Fund 543 - WW 2018 Revenue Bond Project Cash	184,965	20,310	-				
Total Cash Wastewater	$29,784,132	$26,881,600	$27,440,221	$28,506,332	$0	$0	$0

Wastewater Collections 8110

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	518,137	558,198	579,391	609,700
Wages-Extra Help	20,419	4,045	70,000	70,000
Overtime-Regular	16,572	23,362	7,000	7,000
Benefits	297,287	306,056	347,502	413,414
Salaries & Benefits	**852,416**	**891,661**	**1,003,893**	**1,100,114**
Telephone	5,857	4,904	5,356	5,356
Postage & Freight	71	-	1,500	750
Advertising	604	-	500	500
Forms & Supplies	2,821	3,230	4,050	4,050
Printing & Binding	90	275	1,500	1,000
Professional Services	12,555	10,739	13,500	20,500
Professional Development	9,403	7,628	10,500	10,500
Dues & Subscription	13,126	19,050	15,000	20,000
Rentals-Bldgs/Equip/Land	-	4,187	15,000	5,000
Special Equipment O&M	58,496	67,921	75,300	95,300
Vehicle Mtce - Isf	33,391	45,027	85,008	85,008
Vehicle Maint Fuel	31,363	29,371	35,000	35,000
Vehicle Lease-Enterprise	-	17,524	17,400	17,400
Vehicle Replacement Fee	135,414	72,214	72,214	72,214
Bldg O&M-Mtce	16,540	13,222	39,600	39,600
Chemicals	56,514	67,038	75,000	75,000
Small Tools & Equipment	23,701	9,699	25,000	25,000
Training Program	3,335	1,746	5,000	5,000
Water & Sewer	3,343	3,540	3,757	3,757
Liability Insurance	124,055	133,970	149,873	149,873
Computer Maint/Rep -Isf	9,054	9,067	9,638	9,638
Wellness Program	1,656	329	2,257	-
Other Expenditures	**541,388**	**520,680**	**661,953**	**680,446**
Total Expenditures	**1,393,804**	**1,412,340**	**1,665,846**	**1,780,560**
Revenue				
Revenue	-	-	-	-
Total Revenue	**-**	**-**	**-**	**-**
Net Budget Impact	**1,393,804**	**1,412,340**	**1,665,846**	**1,780,560**
Depreciation	**1,523,023**	**1,557,870**	**1,501,962**	**1,501,962**

Wastewater Treatment 8120

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	2,008,888	1,930,101	2,247,975	2,155,055
Extra Help	35,012	20,974	24,000	24,000
Overtime-Regular	95,711	108,127	56,000	57,800
Benefits	1,078,138	1,164,786	1,287,199	1,412,773
Salaries & Benefits	**3,217,750**	**3,223,988**	**3,615,174**	**3,649,628**
Heat & Power	728,587	764,520	875,000	920,000
Telephone	26,073	21,222	25,807	25,807
Postage & Freight	3,736	4,766	12,500	8,500
Advertising	736	335	1,000	1,000
Forms & Supplies	17,593	16,776	18,000	18,000
Printing & Binding	2,611	1,278	1,000	1,000
Professional Services	863,543	1,117,342	1,538,174	1,295,516
Professional Development	14,647	12,717	24,000	15,000
Dues & Subscription	111,058	132,483	100,000	120,000
Regulatory Fees	77,961	76,697	100,000	80,000
Rentals-Bldgs/Equip/Land	5,641	17,464	5,000	10,000
O&M-Office Equipment	3,493	4,278	2,000	2,500
Special Equipment O&M	557,347	896,838	689,346	650,000
Vehicle Mtce - Isf	66,990	74,572	38,762	38,762
Vehicle Maint Fuel	26,665	13,265	18,000	20,000
Vehicle Lease-Enterprise	-	9,555	10,300	10,300
Vehicle Replacement Fee	34,903	50,000	76,400	76,400
Bldg O&M-Mtce	163,133	194,621	233,088	209,763
Chemicals	1,912,894	2,229,477	2,613,000	2,570,500
Small Tools & Equipment	46,886	44,224	50,000	42,000
Training Program	11,013	3,566	10,500	10,500
Water & Sewer	12,919	11,089	12,910	12,910
Liability Insurance	436,241	589,171	519,977	519,977
Debt Service	2,632,379	2,599,653	2,521,968	2,521,968
Computer Maint/Rep -Isf	126,498	141,997	203,714	203,714
Other Material & Supplies	9,684	9,722	27,500	20,000
Wellness Program	7,937	310	11,753	-
Operating Transfers Out	2,562,100	2,562,100	2,483,759	2,619,535
Other Expenditures	**10,463,268**	**11,600,039**	**12,223,458**	**12,023,652**
Total Expenditures	**13,681,018**	**14,824,027**	**15,838,632**	**15,673,280**
Revenue				
Existing Users	19,545,724	20,676,781	19,354,000	21,310,000
New Users	958,247	1,767,633	720,000	820,000
Total Revenue	**20,503,971**	**22,444,414**	**20,074,000**	**22,130,000**
Net Budget Impact	**(6,822,952)**	**(7,620,387)**	**(4,235,368)**	**(6,456,720)**
Depreciation	**2,067,520**	**1,769,968**	**2,117,423**	**2,117,423**

Environmental Compliance 8130

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	320,902	294,715	321,552	317,023
Overtime-Regular	-	-	750	750
Benefits	143,547	142,109	137,921	158,186
Salaries & Benefits	**464,449**	**436,824**	**460,223**	**475,959**
Telephone	1,367	1,674	1,678	1,678
Postage & Freight	83	62	300	300
Advertising	-	314	500	500
Forms & Supplies	945	65	600	3,500
Printing & Binding	258	-	-	-
Professional Services	10,443	11,780	30,500	30,500
Professional Development	1,876	6,076	4,500	4,500
Dues & Subscription	15,303	12,500	14,000	14,000
Special Equipment O&M	5,773	953	6,000	6,000
Spec O&M-Lab Supplies	458	1,236	4,000	4,000
Vehicle Maint Fuel	2,203	1,711	2,500	2,500
Vehicle Lease-Enterprise	-	8,930	9,000	9,000
Spec O&M-Laundry	587	997	1,000	1,000
Small Tools & Equipment	596	344	2,000	2,000
Training Program	2,916	215	500	1,050
Liability Insurance	68,198	86,870	75,889	75,889
Computer Maint/Rep -Isf	1,767	1,773	2,059	2,059
Outreach Materials	4,186	5,482	20,000	20,000
Other Expenditures	**116,957**	**140,980**	**175,026**	**178,476**
Total Expenditures	**581,406**	**577,804**	**635,249**	**654,435**
Revenue				
Other Revenue	10,018	8,860	10,300	9,000
Total Revenue	**10,018**	**8,860**	**10,300**	**9,000**
Net Budget Impact	**571,388**	**568,945**	**624,949**	**645,435**

Wastewater Laboratory 8140

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Salaries & Wages	406,126	482,778	497,142	511,579
Extra Help	54,811	-	5,000	5,000
Overtime-Regular	5,017	4,276	8,000	8,000
Benefits	194,312	228,397	234,921	265,996
Salaries & Benefits	**660,266**	**715,450**	**745,063**	**790,575**
Telephone	1,231	2,076	2,380	2,380
Postage & Freight	1,800	3,074	2,500	2,500
Advertising	88	-	500	500
Forms & Supplies	6,293	3,100	4,600	4,600
Printing & Binding	191	-		-
Professional Services	259,782	121,637	117,500	111,500
Professional Development	3,329	148	4,500	4,500
Dues & Subscription	37,285	36,210	35,000	35,000
Special Equipment O&M	58,980	56,409	52,000	62,000
Spec O&M-Lab Supplies	138,316	142,706	150,000	150,000
Vehicle Mtce - Isf	2,296	1,535	1,962	1,962
Vehicle Maint Fuel	458	359	250	450
Vehicle Lease-Enterprise	-	8,767	8,900	8,900
Bldg O&M-Mtce	28,173	19,099	22,500	22,700
Training Program	-	591	1,500	1,500
Liability Insurance	105,106	133,979	117,537	117,537
Computer Maint/Rep -Isf	10,762	14,346	20,988	20,988
Other Material & Supplies	11,548	598	15,000	5,000
Equipment	-	-	75,000	330,000
Other Expenditures	**665,639**	**544,634**	**632,617**	**882,017**
Total Expenditures	**1,325,905**	**1,260,084**	**1,377,680**	**1,672,592**
Revenue				
Other Revenue	435,216	409,491	410,000	300,000
Transfer from Water	175,000	150,000	150,000	150,000
Total Revenue	**610,216**	**559,491**	**560,000**	**450,000**
Net Budget Impact	**715,689**	**700,593**	**817,680**	**1,222,592**
Depreciation	**46,514**	**46,514**	**33,470**	**33,470**

Wastewater Connection Fee 527

Proposed FY 2026-2027

Account Description	2023-24 Actuals	2024-25 Actuals	2025-26 Adopted/ Amended	2026-27 Proposed
Expenditures				
Debt Service Transfer Out	704,600	705,574	703,145	704,046
Operating Transfer Out	-	553,167		
Other Expenditures	**704,600**	**1,258,741**	**703,145**	**704,046**
Total Expenditures	**704,600**	**1,258,741**	**703,145**	**704,046**
Revenue				
Sewer Main Exten Fees	1,958	22,809	5,000	20,000
Sewer - Connection Fees	355,178	906,810	500,000	500,000
Sewer - Spec Connection Fees	87,572	355,388	100,000	100,000
Interest on Investment	513,539	482,625	115,000	200,000
Total Revenue	**958,246**	**1,767,633**	**720,000**	**820,000**
Net Budget Impact	**(253,646)**	**(508,892)**	**(16,855)**	**(115,954)**

INTERNAL SERVICE FUNDS

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Internal Service Fund Revenue Details - Proposed

FY 2026-2027

	Actual 2022-23	Actual 2023-24	Actual 2024-25	Adopted/ Ammended 2025-26	Proposed 2026-27
Vehicle Replacement Fee	$ 1,329,606	$ 968,603	$ 563,748	$ 110,700	$ 110,700
Sale of Property	48,776	68,009	174,934	-	-
Interest on Investments	311,048	542,748	649,902	140,000	140,000
Lease Proceeds	-	415,718	-	177,185	177,185
Other Current Service Charges	2,930	2,674	139,566	13,000	13,000
Total Vehicle Replacement	**1,692,360**	**1,997,752**	**1,528,150**	**440,885**	**440,885**
Vehicle Maintenance Fee	1,012,166	1,202,838	1,318,819	1,446,607	1,291,481
Interest on Investments	6,608	6,454	13,901	10,000	10,000
Other Revenue	13,939	1,383	19,670	-	-
Total Vehicle Maintenance	**1,032,713**	**1,210,675**	**1,352,390**	**1,456,607**	**1,301,481**
Health - Employer Contrib.	3,849,993	4,355,468	4,859,832	4,483,010	4,857,770
Unemployment Insurance	18,889	53,477	30,349	41,508	55,366
Interest on Investments	10,428	13,109	21,765	6,944	5,200
Other Revenue	-	-	-	-	60,000
Total Employee Benefits	**3,879,310**	**4,422,054**	**4,911,946**	**4,531,462**	**4,978,336**
Dental/Vision	524,288	542,926	551,657	540,000	610,000
Interest on Investments	10,869	17,685	17,417	25,000	17,000
Total Dental/Vision	**535,157**	**560,611**	**569,074**	**565,000**	**627,000**
Disability	125,713	120,683	4,273	-	-
Interest on Investments	5,281	9,652	9,515	-	-
Total Disability	**130,994**	**130,335**	**13,788**	**-**	**-**
Contributions	2,893,500	3,359,685	4,186,859	4,000,319	3,572,202
Interest on Investments	-	-	-	-	-
Other Revenue	1,360	-	-	-	-
Total General Liability	**2,894,860**	**3,359,685**	**4,186,859**	**4,000,319**	**3,572,202**
Worker Compensation	1,300,017	1,212,152	1,244,271	1,201,069	1,400,000
Interest on Investments	30,851	51,099	63,710	12,300	12,300
Other	2,133	52,680	46,294	-	-
Total Worker Compensation	**1,333,001**	**1,315,931**	**1,354,275**	**1,213,369**	**1,412,300**
Technology Replacement Fee	894,800	1,020,952	1,092,665	1,366,531	3,174,294
Interest on Investments	61,032	103,517	116,853	27,800	27,000
Other Revenues	71,464	74,318	69,908	60,000	60,000
Sale of Property	-	-	-	-	-
Total Technology Replacement	**1,027,296**	**1,198,788**	**1,279,426**	**1,454,331**	**3,261,294**
Total Internal Service	**12,525,691**	**14,195,831**	**15,195,908**	**13,661,973**	**15,593,498**

Dental/Vision Plan Fund 603-6512

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Professional Services	20,722	20,673	25,000	25,000
Insurance	554,741	563,704	540,000	610,000
Other Expenditures	**575,463**	**584,377**	**565,000**	**635,000**
Total Expenditures	**575,463**	**584,377**	**565,000**	**635,000**
Revenue				
Interest	17,685	17,417	4,000	17,000
Vision/Dental Revenue	440,048	465,381	447,000	496,000
Vision/Dental Revenue Retiree	102,878	86,276	114,000	114,000
Total Revenue	**560,611**	**569,074**	**565,000**	**627,000**
Net Budget Impact	**$ 14,852**	**$ 15,303**	**$ -**	**$ 8,000**

Disability Program Fund 604-6520

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Paid Claims	148,646	-	-	-
Other Expenditures	**148,646**	**-**	**-**	**-**
Total Expenditures	**148,646**	**-**	**-**	**-**
Revenue				
Interest	9,652	9,515	-	-
Employee Disability Prg	58,035	1,247	-	-
EE Disbaility local 1	62,648	3,026	-	-
Total Revenue	**130,335**	**13,788**	**-**	**-**
Net Budget Impact	**$ 18,311**	**$ (13,788)**	**$ -**	**$ -**

Employee Benefits Fund 601-6521

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Forms & Supplies	11,699		12,000	12,000
Professional Services	49,661	42,312	48,300	48,300
Insurance	4,306,613	4,707,733	4,471,162	4,957,636
Other Expenditures	**4,367,973**	**4,750,045**	**4,531,462**	**5,017,936**
Total Expenditures	**4,367,973**	**4,750,045**	**4,531,462**	**5,017,936**
Revenue				
Interest	13,109	21,765	6,944	5,200
Health Plan Contribution	4,355,468	4,859,627	4,483,010	4,857,770
Unemployment	53,477	30,349	41,508	55,366
Other Revenue	-	205	-	60,000
Total Revenue	**4,422,054**	**4,911,946**	**4,531,462**	**4,978,336**
Net Budget Impact	**$ (54,081)**	**$ (161,901)**	**$ -**	**$ 39,600**

General Liability Fund 605-6535

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	94,547
Extra Help	-	-	-	-
Total Benefits	-	-	-	36,545
Salaries & Benefits	**-**	**-**	**-**	**131,092**
Office Expense	-	-	-	10,000
Professional Services	-	8,370	-	-
Professional Development	-	-	-	10,000
Insurance	3,490,507	3,370,340	3,980,319	3,801,110
Paid Claims	14,900	58	20,000	20,000
Other Expenditures	**3,505,407**	**3,378,768**	**4,000,319**	**3,841,110**
Total Expenditures	**3,505,407**	**3,378,768**	**4,000,319**	**3,972,202**
Revenue				
Interest	-	-	-	-
Operating Transfer - GF	2,077,191	2,529,366	2,496,996	2,256,142
Operating Transfer - Water	537,450	697,275	622,401	518,416
Operating Transfer - Sewer	733,600	943,990	863,276	723,900
Operating Transfer - Veh Maint	11,444	16,228	17,646	27,729
Operating Transfer - IT	-	-	-	46,015
Total Revenue	**3,359,685**	**4,186,859**	**4,000,319**	**3,572,202**
Net Budget Impact	**$ 145,722**	**$ (808,091)**	**$ -**	**$ 400,000**

Worker's Compensation Fund 607-6555

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Professional Services	-	-	25,000	85,000
Insurance	1,378,332	1,203,517	1,641,542	1,705,000
Other Expenditures	**1,378,332**	**1,203,517**	**1,666,542**	**1,790,000**
Total Expenditures	**1,378,332**	**1,203,517**	**1,666,542**	**1,790,000**
Revenue				
Interest	51,099	63,710	12,300	12,300
Workers Comp Contribution	1,212,152	1,244,271	1,201,069	1,400,000
NCCSIF WC Claim Reim Chk	52,680	46,294	-	-
Total Revenue	**1,315,931**	**1,354,274**	**1,213,369**	**1,412,300**
Net Budget Impact	**$ 62,401**	**$ (150,757)**	**$ 453,173**	**$ 377,700**

Vehicle Replacement Fund 620-6610

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Forms & Supplies	3,414	89	5,000	-
Vehicle Lease	83,339	406,175	414,340	414,340
Vehicle Enterprise - GF	-	-	-	817,607
Vehicle Enterprise - Water	-	-	-	34,059
Vehicle Enterprise - WW	-	-	-	66,684
Vehicle Enterprise - Streets	-	-	-	25,519
Vehicle Maint Fuel	-	4,662	-	-
Tools, Supplies, Equip. <5k	7,595	-	-	-
Interest Payment	66,474	71,895	66,410	66,410
Capital Acquisitions	2,033,748	1,119,901	887,000	695,000
Contribution to Other Funds	-	-	2,281,222	1,500,000
Other Expenditures	**2,194,570**	**1,602,721**	**3,653,972**	**3,619,619**
Total Expenditures	**2,194,570**	**1,602,721**	**3,653,972**	**3,619,619**
Revenue				
Interest	598,977	649,902	140,000	140,000
Operating Transfer - GF	800,000	364,819	-	-
Operating Transfer - Water	70,100	76,715	34,300	34,300
Operating Transfer - Sewer	98,103	122,214	76,400	76,400
Operating Transfer - Veh Maint	400	-	-	-
Other Current Svc Chg	2,674	5,868	13,000	13,000
Other Revenue	-	1,712	-	-
Gain From Ins Claim	1,335	46,360	-	-
Sale-Real/Personal Prop	66,675	128,574	-	-
Lease Proceeds	359,489	-	177,185	177,185
Operating Transfer In	-	131,986	-	-
Total Revenue	**1,997,752**	**1,528,149**	**440,885**	**440,885**
Net Budget Impact	**$ 196,818**	**$ 74,573**	**$ 3,213,087**	**$ 3,178,734**
Note: Depreciation	**$ 1,048,473**	**$ 977,842**	**$ 1,048,473**	**$ 1,048,473**

Vehicle Maintenance Fund 619-6605

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	$ 249,241	$ 260,895	$ 365,041	$ 469,605
Extra Help	23,650	12,286	10,500	10,500
Overtime	11,842	8,271	6,000	6,000
Total Benefits	158,989	186,588	228,946	297,954
Salaries & Benefits	**443,723**	**468,041**	**610,487**	**784,059**
Heat & Power	13,011	14,732	18,271	18,271
Telephone	2,895	2,263	3,224	1,824
Postage & Freight	48	78	300	300
Forms & Supplies	599	7,635	3,550	2,800
Printing & Binding	90	-	150	150
Professional Services	36,624	37,872	42,950	3,450
Professional Development	522	3,249	7,500	7,500
Dues & Subscriptions	3,993	5,780	10,000	10,000
Office Equipment - O & M	-	-	600	-
Special Equipment - O & M	5,655	28,038	15,000	50,000
Vehicle - O & M	710,543	517,980	501,000	511,000
Buildings & Facility - O & M	15,164	11,278	22,700	22,700
Small Tools & Supplies	7,705	19,270	21,500	22,780
Training Programs	1,982	2,324	4,530	2,000
Insurance	11,444	16,228	17,645	20,379
Technology ISF	12,448	12,491	16,510	40,306
Other Mat & Supplies	-	-	1,500	-
Capital Acquisitions	-	-	10,000	-
Other Expenditures	**822,720**	**679,218**	**696,930**	**713,460**
Total Expenditures	**1,266,443**	**1,147,259**	**1,307,417**	**1,497,519**
Revenue				
Interest	6,454	13,901	10,000	10,000
Vehicle Maint Fee	1,202,838	1,318,819	1,446,607	1,291,481
Other Revenue	1,383	19,670	-	-
Total Revenue	**1,210,675**	**1,352,390**	**1,456,607**	**1,301,481**
Net Budget Impact	**$ 55,768**	**$ (205,131)**	**$ (149,190)**	**$ 196,038**
Note: Depreciation	**$ 14,531**	**$ 14,221**	**$ 14,532**	**$ 14,532**

Technology Fund 622-6630

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	707,268
Extra Help	-	-	-	30,104
Overtime	-	-	-	18,500
Total Benefits	-	-	-	368,719
Salaries & Benefits	**-**	**-**	**-**	**1,124,591**
Telephone	68,137	53,537	60,000	67,200
Postage & Freight	-	-	-	300
Forms & Supplies	-	-	-	1,150
Professional Services	44,911	33,468	100,000	69,000
Travel & Meeting	-	-	-	42,000
Office Equipment - O & M	260,573	373,092	633,535	1,031,885
Vehicle Cost	-	-	-	31,517
Small Tools & Supplies	321,447	280,269	275,000	481,810
Water & Sewer	-	-	-	458
Uniforms/Clothing	-	-	-	1,000
Insurance	-	-	-	47,088
Capital Acquisitions	323,921	275,835	455,000	424,000
Other Expenditures	**1,018,989**	**1,016,202**	**1,523,535**	**2,197,408**
Total Expenditures	**1,018,989**	**1,016,202**	**1,523,535**	**3,321,999**
Revenue				
Operating Transfer - GF	697,066	749,089	894,308	2,343,616
Operating Transfer - Water	125,357	125,310	177,713	248,882
Operating Transfer - Sewer	148,081	167,183	235,589	364,302
Operating Transfer - VMF	12,448	12,491	16,348	40,306
Operating Transfer - SASA	38,000	38,592	42,573	92,704
Operating Transfer - S&R	-	-	-	84,485
Interest on Investment	103,517	116,853	27,800	27,000
Other Revenue	74,318	69,908	60,000	60,000
Total Revenue	**1,198,788**	**1,279,426**	**1,454,331**	**3,261,294**
Net Budget Impact	**$ (179,799)**	**$ (263,224)**	**$ 69,204**	**$ 60,705**
Note: Depreciation	**$ 387,095**	**$ 346,218**	**$ 341,138**	**$ 341,138**

SPECIAL REVENUE FUNDS

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Streets and Roads 220

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Program Expenses	-	-	-	-
Contribution to Other Funds	4,293,307	5,314,665	5,162,095	5,490,464
Other Expenditures	**4,293,307**	**5,314,665**	**5,162,095**	**5,490,464**
Total Expenditures	**4,293,307**	**5,314,665**	**5,162,095**	**5,490,464**
Revenue				
Road Maint Franchise Fee	815,763	876,100	800,000	800,000
State - Other Revenue	364,093	-	-	-
Gas Tax Sect 2103	638,411	671,182	657,955	697,382
Gas Tax Sect 2105	425,750	436,489	454,106	455,813
Gas Tax Sect 2106	250,333	256,835	256,712	259,783
Gas Tax Sect 2107	576,289	579,041	619,141	609,215
Gas Tax Sect 2107.5	7,500	7,500	7,500	7,500
Road Maint & Rehab Acct	1,775,440	1,909,598	1,902,771	1,982,284
Interest on Investment	352,887	443,533	-	250,000
Other Revenue	19,117	27,404	-	-
Total Revenue	**5,225,583**	**5,207,680**	**4,698,185**	**5,061,977**
Net Budget Impact	**$ (932,276)**	**$ 106,985**	**$ 463,910**	**$ 428,487**

Transportation Development Act 305

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
CIP Project Expenditures	492,849	588,661	1,673,600	1,750,000
Contribution to Other Funds	665,162	757,600	574,000	456,000
Other Expenditures	**1,158,011**	**1,346,261**	**2,247,600**	**2,206,000**
Total Expenditures	**1,158,011**	**1,346,261**	**2,247,600**	**2,206,000**
Revenue				
LTF/TDA	1,764,000	1,529,869	1,750,000	1,750,000
Interest on Investment	25,847	30,609	12,000	12,000
Other Revenue	-	-	-	-
Total Revenue	**1,789,847**	**1,560,478**	**1,762,000**	**1,762,000**
Net Budget Impact	**$ (631,836)**	**$ (214,217)**	**$ 485,600**	**$ 444,000**

Traffic Safety 225-2250

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Professional Services	-	-	-	-
Contribution to Other Funds	150,000	131,986	465,000	450,000
Other Expenditures	**150,000**	**131,986**	**465,000**	**450,000**
Total Expenditures	**150,000**	**131,986**	**465,000**	**450,000**
Revenue				
Fines & Forfeitures	96,224	179,334	150,000	140,000
Redflex Red Light Fines	9,470	14,217	10,000	-
Parking Citations	48,225	50,350	35,300	35,000
DUI Fines	-	-	-	-
Interest on Investment	22,812	25,135	4,700	-
Total Revenue	**176,731**	**269,035**	**200,000**	**175,000**
Net Budget Impact	**$ (26,731)**	**$ (137,049)**	**$ 265,000**	**$ 275,000**

Citizens' Option for Public Safety 227-2270

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Small Tools & Supplies	-	28,115	-	
Equipment	-	-	-	-
Contribution to Other Funds	-	140,000	300,000	200,000
Other Expenditures	**-**	**168,115**	**300,000**	**200,000**
Total Expenditures	**-**	**168,115**	**300,000**	**200,000**
Revenue				
COPS Revenue	-	207,148	100,000	100,000
Interest on Investment	-	19,768	-	2,000
Total Revenue	**-**	**226,916**	**100,000**	**102,000**
Net Budget Impact	**$ -**	**$ (58,801)**	**$ 200,000**	**$ 98,000**

Suspended Traffic Offender Program 226-2260

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Professional Services	-	-	-	-
Contribution to Other Funds	75,000	185,000	125,000	250,000
Other Expenditures	**75,000**	**185,000**	**125,000**	**250,000**
Total Expenditures	**75,000**	**185,000**	**125,000**	**250,000**
Revenue				
Impound Fee	-	47,598	30,000	-
STOP Program Fines	137,682	106,061	80,000	110,000
Interest on Investment	12,392	16,080	2,000	-
Total Revenue	**150,074**	**169,739**	**112,000**	**110,000**
Net Budget Impact	**$ (75,074)**	**$ 15,261**	**$ 13,000**	**$ 140,000**

Light and Landscape Maintenance District

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Heat/Power	87,597	99,201	89,487	108,979
Professional Services	15,183	15,671	19,510	21,002
Spec O&M Landscape	380,737	433,503	473,694	774,498
Water	92,390	103,768	96,161	101,314
Materials	3,895	5,159	14,069	
Contribution to Other Funds	239,825	219,272	311,173	289,054
Other Expenditures	**819,627**	**876,574**	**1,004,094**	**1,294,847**
Total Expenditures	**819,627**	**876,574**	**1,004,094**	**1,294,847**
Revenue				
Special Assessment	991,538	1,102,724	1,109,240	1,210,379
Interest on Investment	22,056	28,704	18,998	21,133
Total Revenue	**1,013,594**	**1,131,428**	**1,128,238**	**1,231,512**
Net Budget Impact	**$ (193,967)**	**$ (254,854)**	**$ (124,144)**	**$ 63,335**

Residential Street Lights

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Heat/Power	102,191	103,784	104,069	103,590
Professional Services	5,361	5,487	5,870	6,633
Contribution to Other Funds	1,959	1,811	2,049	2,049
Other Expenditures	**109,511**	**111,082**	**111,988**	**112,271**
Total Expenditures	**109,511**	**111,082**	**111,988**	**112,271**
Revenue				
Special Assessment	104,478	105,606	108,321	112,587
Interest on Investment	4,219	4,220	2,270	2,315
Total Revenue	**108,697**	**109,826**	**110,591**	**114,903**
Net Budget Impact	**$ 814**	**$ 1,256**	**$ 1,397**	**$ (2,632)**

Development Impact Fees 304

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Professional Service	**-**	**-**	**-**	
Debt Service	335,651	335,485	324,116	318,884
CIP Project Expenditures	3,357,774	189,418	-	-
Contribution to Other Funds	246,027	77,011	77,010	77,000
Other Expenditures	**3,939,452**	**601,913**	**401,126**	**395,884**
Total Expenditures	**3,939,452**	**601,913**	**401,126**	**395,884**
Revenue				
Impact Fees	3,456,792	11,819	401,126	305,894
Interest on Investment	391,390	440,004	90,000	90,000
Other Revenue	19,703	-		
Total Revenue	**3,867,885**	**451,823**	**491,126**	**395,894**
Net Budget Impact	**$ 71,567**	**$ 150,090**	**$ (90,000)**	**(10.00)**

Budget Stabilization Reserves

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Small Tools & Supplies	-	-	-	
Equipment	-	-	-	-
Contribution to Other Funds	527,942	9,295,576	640,000	520,000
Other Expenditures	**527,942**	**9,295,576**	**640,000**	**520,000**
Total Expenditures	**527,942**	**9,295,576**	**640,000**	**520,000**
Revenue				
Revenue	527,942	9,295,576	-	-
Interest on Investment	303,128	467,154	25,000	25,000
Other Revenue	-	-	-	-
Total Revenue	**831,070**	**9,762,730**	**25,000**	**25,000**
Net Budget Impact	**$ (303,128)**	**$ (467,154)**	**$ 615,000**	**495,000**

Fire Equip SRF 238-2380

Proposed FY 2026-2027

Revenue/Appropriation	Actual 2023-24	Actual 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27
Expenditures				
Salaries & Wages	-	-	-	-
Extra Help	-	-	-	-
Total Benefits	-	-	-	-
Salaries & Benefits	**-**	**-**	**-**	**-**
Contribution to Other Funds	-	-	60,000	-
Other Expenditures	**-**	**-**	**60,000**	**-**
Total Expenditures	**-**	**-**	**60,000**	**-**
Revenue				
Revenue	-	104,433	-	-
Interest on Investment	-	-	-	-
Total Revenue	**-**	**104,433**	**-**	**-**
Net Budget Impact	**$ -**	**$ (104,433)**	**$ 60,000**	**-**

OTHER SCHEDULES

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Dept. No.	Department/Division	Adopted/ Amended 2023-24	Adopted/ Amended 2024-25	Adopted/ Amended 2025-26	Proposed 2026-27	Unfunded 2026-27
GENERAL FUND						
1305	City Manager	4.00	4.00	5.00	5.00	1.00
1510	Finance	16.00	16.00	16.00	16.00	1.00
1530	Information Technology	6.00	6.00	6.00	7.00	-
1541	Facilities Maintenance	7.15	7.15	7.00	5.16	-
1720	Human Resources	6.00	6.00	6.00	6.00	-
1905	Public Works Administration	1.25	1.75	4.40	3.60	-
1910	Planning	5.50	5.00	5.40	5.40	1.00
1920	Building Inspection	6.25	8.25	8.00	8.75	1.00
1930	Engineering	11.00	12.00	12.00	11.00	-
2110	Traffic Education & Enforcement	5.00	5.00	5.00	5.00	2.00
2120	Police Administration	10.00	10.00	10.00	10.00	2.00
2130	Investigation	15.00	15.00	15.00	9.00	1.00
2135	Special Investigation Units	-	-	-	3.00	-
2140	Field Operations	55.50	55.50	54.00	51.00	1.00
2150	Community Outreach	1.00	1.00	1.00	-	-
2155	Information Resources	1.00	1.00	1.00	1.00	-
2160	Info & Analysis Unit	1.00	1.00	1.00	1.00	-
2170	Communications	15.00	15.00	15.00	13.00	1.00
2305	Fire Administration	8.00	8.00	8.00	8.00	1.00
2310	Fire Operations	51.00	51.00	51.00	51.00	-
3130	Street Maintenance	11.54	11.54	11.54	11.17	-
3150	Electrical Maintenance	0.78	1.28	3.08	3.17	-
5105	Parks & Recreation Administration	3.00	3.00	3.00	3.00	-
5110	Recreation Supervision	3.00	3.00	3.00	-	-
5115	Parks Maintenance	12.00	12.00	12.00	8.00	-
5120	Senior Center	1.00	1.00	1.00	1.00	-
5130	Aquatics	1.00	1.00	1.00	1.00	-
Total		257.97	261.47	265.42	247.25	12.00
VEHICLE MAINTENANCE FUND						
6605	Vehicle Maintenance	4.15	5.15	5.00	5.16	-
Total		4.15	5.15	5.00	5.16	-
WATER FUND						
7110	Water Distribution	9.64	9.64	9.64	9.67	-
7120	Water Treatment Plant	16.05	16.30	16.00	15.50	-
Total		25.69	25.94	25.64	25.17	-
WASTEWATER FUND						
8110	Wastewater Collection	7.44	7.44	7.44	7.67	-
8120	Wastewater Treatment Plant	22.25	22.50	21.50	20.50	-
8130	Environmental Compliance	3.00	3.00	3.00	3.00	-
8140	Treatment Plant Laboratory	6.00	6.00	6.00	6.00	-
Total		38.69	38.94	37.94	37.17	-
Animal Control Services						
7410	Animal Control Services	11.00	11.00	11.00	11.00	-
Total		11.00	11.00	11.00	11.00	-
Total (All Funds)		**337.50**	**342.50**	**345.00**	**325.75**	**12.00**
ELECTED PART-TIME POSITIONS						
1110	City Council Members	5.00	5.00	5.00	5.00	-
1710	City Clerk	1.00	1.00	1.00	1.00	-
1520	City Treasurer	1.00	1.00	1.00	1.00	-
Total Elected Positions		7.00	7.00	7.00	7.00	-
Total All Funds and Elected Positions		**344.50**	**349.50**	**352.00**	**332.75**	**12.00**

Summary of City's Debt

Proposed FY 2026-2027

Name of Bond/Loan	Original Amount of Issue	Issue Date	Final Payment Date	Interest Rate	Beginning Outstanding Balance 7/1/2026	Requirements for Fiscal Year Ending June 30, 2027 Interest Payable	Principal Payable	Total
2018 Wastewater Revenue Bonds	$ 23,430,000	09/11/18	06/01/48	3.43%	$ 19,705,000	$ 702,206	$ 595,000	$ 1,297,206
Wastewater Revenue Bonds-2017 (CREBs)	6,820,000	04/12/17	06/01/42	1.00%	5,060,000	$ 53,339	$ 230,000	$ 283,339
Wastewater Certificates-2017	9,065,639	10/17/17	06/01/32	2.11%	6,058,190	122,789	960,179	1,082,968
Wastewater SRF Loan - WWTF	3,148,746	10/21/11	04/30/35	2.20%	1,579,786	34,755	160,645	195,400
Wastewater SRF Loan - Collection	6,436,490	04/05/12	12/31/34	1.80%	3,179,953	57,239	328,645	385,884
Wastewater Solar Project	2,398,711	12/19/13	06/30/33	4.00%	1,040,243	41,610	131,705	173,315
Water Revenue Bonds-2017 (CREBs)	2,124,216	04/11/17	06/01/32	1.11%	1,164,269	14,137	152,383	166,520
Water Certificates-2013	21,710,000	05/16/13	06/01/35	3.43%	10,490,000	377,340	1,010,000	1,387,340
Water SRF Loan - Region 1	5,927,874	05/01/10	07/01/32	2.50%	2,096,715	50,414	328,098	378,512
Water SRF Loan - Region 2/3	18,381,507	05/01/10	07/01/32	2.28%	6,414,194	140,745	1,009,278	1,150,024
Water SRF - Smart Meter Replacement	3,244,932	11/16/17	08/31/31	1.80%	2,418,173	24,079	213,129	237,208
Street Light Conversion	1,345,487	05/09/13	06/22/27	3.00%	116,220	2,624	116,220	118,844
Gauche Park Refunding LRBs-2015	9,730,000	11/24/15	06/01/36	2.99%	5,460,000	172,769	475,000	647,769
Bank of America - OpTerra	4,967,214	11/13/14	06/13/31	2.89%	2,325,055	62,911	397,553	460,464
Solar Energy Project - 2017 (CREBs)	1,611,448	11/28/17	11/01/37	4.81%	1,202,348	22,417	69,821	92,238
Bank of America - Equipment Sch. #1	2,175,979	08/26/21	09/01/31	1.44%	1,235,562	17,012	217,456	234,468
Bank of America - Equipment Sch. #2	670,178	08/26/21	09/01/31	1.44%	380,539	5,240	66,974	72,214
Bank of America - Equipment Sch. #3	486,387	12/07/21	09/01/31	1.68%	276,315	4,440	48,367	52,807
JP Morgan Chase (9922)	1,000,000	10/13/23	09/01/33	3.99%	916,984	31,347	89,913	121,260
RDA Successor Agency								
2015 Tax Allocation Refunding Bonds	31,545,000	12/23/15	09/01/39	3.59%	21,625,000	739,244	1,225,000	1,964,244
2005 CIEDB	1,905,700	06/01/05	09/01/34	2.93%	768,991	21,419	75,911	97,330
RDA Successor Agency	33,450,700				22,393,991	760,663	1,300,911	2,061,574
Total All Debt Service	$ 157,125,508				$ 92,596,554	$ 2,666,731	$ 7,811,363	$ 10,599,354

COMPUTATION OF LEGAL DEBT MARGIN
FY 2026-2027

Total Assessed Value All Real & Personal Property	$	7,582,505,030
Debt Limit Percentage		15%
Total Debt Limit		1,137,375,755
Total amount of debt applicable to debt limit		7,217,370
Legal Debt Margin	**$**	**1,130,158,385**

Note: The City is in compliance with all debt covenants with regards to debt coverage ratios as mandated by the California State Constitution. The amount of the debt applicable to the debt limit is low and doesn't consume a large amount of the City's financial resources. Because the amount of debt is low, it will facilitate the process of allocating financial resources in future years.

CITY OF YUBA CITY
GANN APPROPRIATIONS LIMIT
FY 2026-27

In 1979, California voters approved Proposition 4 (Article XIII-B of the California State Constitution). Informally known as the "Gann Initiative," Article XIII-B provides limits regarding the total amount of appropriations in any fiscal year from "the proceeds of taxes."

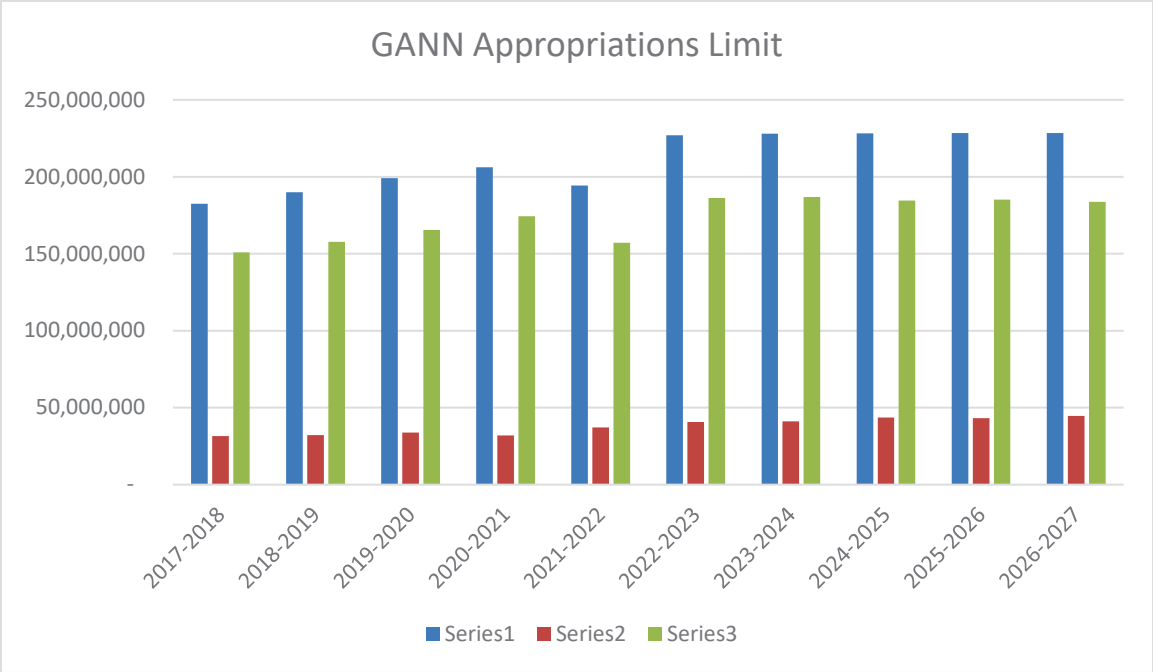
In 1980, the State Legislature added Section 9710 to the Government Code. This section states that the governing body of each city must establish, by resolution, an appropriations limit for the following year. The limit for any fiscal year is equal to the previous year's limit, adjusted for population changes and the change in the US Consumer Price Index (or California per capita personal income, if smaller). The necessary statistical information is provided by the California Department of Finance.

The original Article XIII-B (Proposition 4) and its implementing legislation were further modified by SB88 and Proposition 111 (approved by the voters in June 1990). The changes were incorporated into the FY 1990-91 and FY 1991-92 Appropriations Limits. Beginning with the FY 1990-91 Appropriations Limit, a city may choose annual adjustment factors. The adjustment factors include the growth in the California Per Capita Income, or the growth in the non-residential assessed valuation due to construction within the city and the population growth within the county or the city.

The following compares the difference between Yuba City's FY 2025-2026 Appropriations Limit and the estimated proceeds of taxes in the adopted FY 2026-2027 Annual Budget. It reflects a significant gap of $183,727,790 and the City remains well below its Appropriations Limit for FY 2026-2027.

Yuba City Appropriations Limit

Fiscal Year	*Appropriations Limit*	*Subject to Limit*	*Difference*
2003-2004	36,124,686	17,528,659	18,596,027
2004-2005	39,119,422	18,111,670	21,007,752
2005-2006	46,743,797	21,537,304	25,206,493
2006-2007	50,254,256	25,972,260	24,281,996
2007-2008	53,867,537	27,832,496	26,035,041
2008-2009	60,611,753	28,429,415	32,182,338
2009-2010	116,156,363	25,527,163	90,629,200
2010-2011	116,353,829	23,828,071	92,525,758
2011-2012	120,589,108	23,210,946	97,378,162
2012-2013	126,136,207	23,049,722	103,086,485
2013-2014	133,616,084	25,359,739	108,256,345
2014-2015	150,318,095	26,381,439	123,936,656
2015-2016	157,984,318	28,281,716	129,702,602
2016-2017	167,131,610	30,377,348	136,754,262
2017-2018	182,541,144	31,615,591	150,925,553
2018-2019	189,861,044	32,080,601	157,780,443
2019-2020	199,183,222	33,834,750	165,348,472
2020-2021	206,254,226	31,976,235	174,277,991
2021-2022	194,332,732	37,205,993	157,126,739
2022-2023	226,941,764	40,737,252	186,204,512
2023-2024	227,940,308	41,027,110	186,913,198
2024-2025	228,122,660	43,630,315	184,492,345
2025-2026	228,327,970	43,205,793	185,122,177
2026-2027	228,419,301	44,691,511	183,727,790



CITY OF YUBA CITY
GANN APPROPRIATIONS LIMIT
FY 2025-26
Appropriations Setting Limit Methodology

FY 2025-2026 Appropriations Limit	$228,327,970
Percentage Change in Non-Residential Construction 4.95%	
Percentage Change in Sutter County Population ..... 0.51% *January 2025 to January 2026*	
FY 2026-2027 Appropriations Limit Adjustment Factor *times* (0.0004) *(1.0001 x 1.0003)*	
City of Yuba City FY 2026-2027 Appropriations Limit	$228,419,301
Appropriations Subject to Limitation *FY 2026-2027*	$ 44,691,511
Difference	**$ 183,727,790**

Capital Asset Acquisition

Proposed FY 2026-2027

General Fund - 100

No.	Account	Division/Program	Description of Acquisition	Replacement/ New Addition	Quantity	Budgeted Amount
GF-2701	2310-69415	Fire	Industrial PPE extractor for Station 2	New Addition	1	20,000
			Total General Fund			20,000

Vehicle Replacement Fund - 620

No.	Account	Division/Program	Description of Acquisition	Replacement/ New Addition	Quantity	Budgeted Amount
VRF-2701		Police Department	Replace K-9; reaching end of live	Replacement	1	92,000
VRF-2703	3130	Street	Street Sweeper	Replacement	1	440,000
VRF-2704	3130	Street	Crafco Patcher IV Mastic Melter and Applicator	New Addition	1	135,000
			Total Vehicle Replacement Fund			667,000

Technology Replacement Fund - 622

No.	Account	Division/Program	Description of Acquisition	Replacement/ New Addition	Quantity	Budgeted Amount
IT-2701	6630	Information Technology	Network Switches at Corpyard	Replacement	1	24,000
IT-2702	6630	Information Technology	Video Surveillance for Corpyard	Replacement	1	80,000
IT-2703	6630	Information Technology	Video Surveillance for GAP	Replacement	1	70,000
IT-2704	6630	Information Technology	Access Control for City Hall, WTP, WWTF, SASA	Replacement	1	180,000
IT-2705	6630	Information Technology	Police Mobile & Handheld Radios	Replacement	1	70,000
			Total Technology Replacement Fund			424,000

Wastewater Fund - 518

No.	Account	Division/Program	Description of Acquisition	Replacement/ New Addition	Quantity	Budgeted Amount
WWF-2701	8140-69201	Laboratory	GC/MS organic instrumentation	New Addition	1	175,000
			Total Wastewater Fund			175,000

Total Citywide	$ 1,286,000

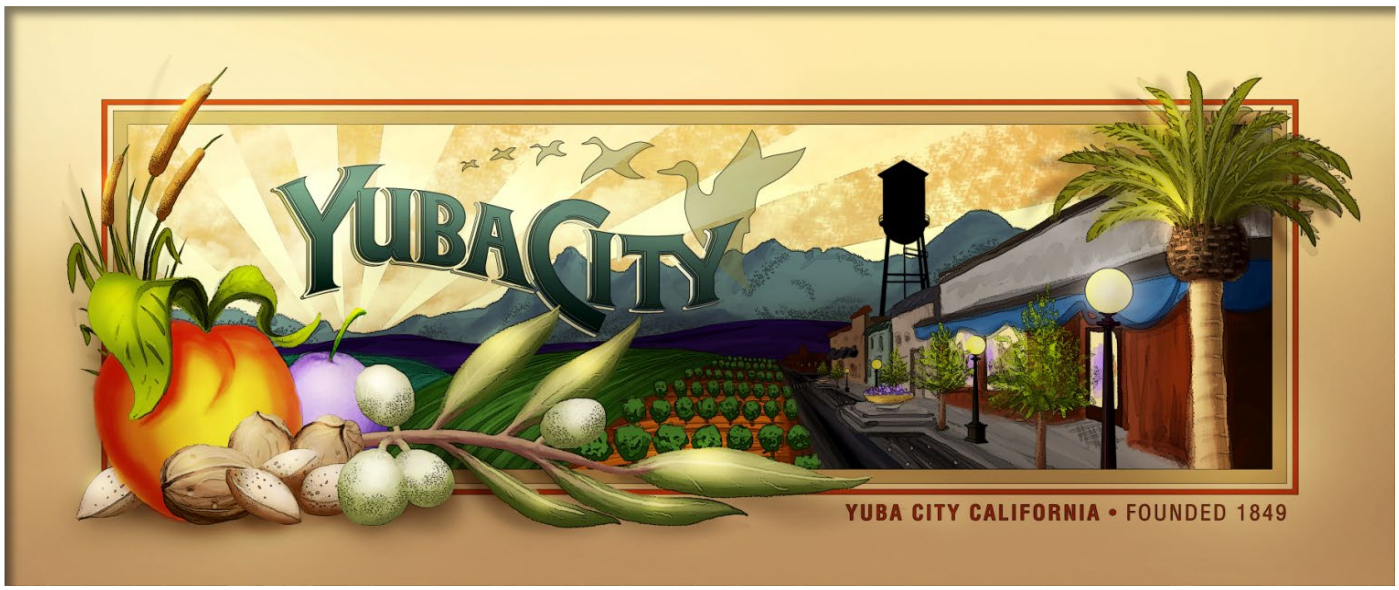
CIP Funding Summary

Proposed FY 2026-2027

No.	Title	General	TDA	S&R	DIF	Water	Wastewater	Other	Totals
General		**122,500**	-	-	-	-	-	-	**122,500**
1080	General Plan Implement and Future Update	82,500						-	82,500
1283	Citywide Accela/Technology Funding	40,000							40,000
Safety		**185,000**	-	-	-	-	-	-	**185,000**
	Station 4 Plumbing Overhaul	100,000							100,000
1237	Fire Station Repair and Renovation	85,000							85,000
Community Service		**300,000**	-	-	-	-	-	-	**300,000**
1222	Annual Playground Replacement	200,000							200,000
1259	Well Installations & Upgrades	100,000							100,000
Facilities		-	-	**60,000**	-	**65,000**	**70,000**	-	**195,000**
1028	Improvement to Buildings and Grounds			60,000		65,000	70,000		195,000
Streets		**43,800**	**1,675,000**	**2,902,050**	**150,000**	**20,000**	**135,000**	**4,659,550**	**9,585,400**
	Transportation Safety Improvements			100,000					100,000
	Citywide Pavement Coordination Assess		300,000						300,000
	George Washington Pavement Rehab			104,000					104,000
1024	Striping and Marking		150,000						150,000
1025	Drainage Improvements			85,000			115,000		200,000
1051	Road Rehabilitation		1,000,000						1,000,000
1188	Stormwater Management Program	43,800		35,000		20,000	20,000		118,800
1213	Residential Road Rehabilitation			500,000					500,000
1220	ADA Public Facilities Sidewalk Improve							88,000	88,000
1241	Center Bore Street Light Pole Replace		75,000						75,000
1243	Bridge Street Utility Undergrounding			50,000					50,000
1255	Road Maintenance and Rehab (RMRA)			1,903,000					1,903,000
1296	Prop 1 IRWM - Gilsizer N Detention Basin		75,000						75,000
1297	Prop 1 IRWM - Lincoln Rd Trash Capture		75,000						75,000
1319	EV Charging Stations			67,000				191,000	258,000
1341	Garden Highway Improvements							3,903,000	3,903,000
1343	Bird Street & Market Street Safety Improv			23,050				207,450	230,500
1344	El Margarita and SR-20 Safety Improv				150,000				150,000
1357	Electric Vehicle Infrastructure Plan			35,000				270,100	305,100
Water		-	-	-	-	**5,250,000**	-	**5,900,000**	**11,150,000**
	Tierra Buena Consolidation System							300,000	300,000
1092	Water Line Ext Proj & Distrib Piping					500,000			500,000
1093	Replace and Major Maint of Water Lines					1,500,000			1,500,000
1094	Replace Water Service and Water Meter					500,000			500,000
1096	Water Storage Rehabilitation					600,000			600,000
1098	Water Capitalization Fund					750,000			750,000
1145	Groundwater Well Abandonments					200,000			200,000
1224	WTP Electrical & Instrumentation Improv					500,000			500,000
1227	Recurring WTP & Satellite Facility Maint					500,000			500,000
1347	Water Planning					200,000			200,000
1355	Wildewood East Subdivision Distribution							5,600,000	5,600,000
Wastewater		-	-	-	-	-	**3,050,000**	**11,790,000**	**14,840,000**
1103	Recurring Plant Projects						500,000		500,000
1104	Recurring Collection or Rehab System						500,000		500,000
1105	Lift Station Improvements						250,000		250,000
1116	Secondary Clarifier Improvements						950,000		950,000
1156	New Outfall & River Levee Crossing Replace							11,790,000	11,790,000
1329	Septage Hauler Station						700,000		700,000
1349	WWTF Reactor Improvements						150,000		150,000
Grand Totals		**651,300**	**1,675,000**	**2,962,050**	**150,000**	**5,335,000**	**3,255,000**	**22,349,550**	**36,377,900**

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City of Yuba City
Capital Improvement
Project Budget
FY 2026-2031



Proposed

City of Yuba City
Summary of Capital Improvement Program Projects
Current General Projects

Account	Project Name	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
1023	City Hall Improvements	273,637						273,637
1080	General Plan Implementation and Future Update	857,980	82,500	250,000	250,000	250,000	250,000	1,940,480
1283	Citywide Accela/Technology Funding	65,000	40,000	40,000	40,000	40,000	40,000	265,000
1313	ERP/HR/Payroll/Utility Billing Upgrade	936,056						936,056
1336	Fleet Master Plan	10,410						10,410
1353	RCN - SR20 Bike/Pedestrian Crossing	250,000						250,000
1354	RCN - Central City Specific Plan and Design Upd	350,000						350,000
		$2,743,083	$122,500	$290,000	$290,000	$290,000	$290,000	$4,025,583

Sources of Funds	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
General	994,458	122,500	290,000	290,000	290,000	290,000	2,276,958
Transportation Development Act							
Streets and Roads	150						150
DIF							
Federal Grant	1,748,175						1,748,175
SRF							
CDBG							
Water	150						150
Wastewater	150						150
Other							
	$2,743,083	$122,500	$290,000	$290,000	$290,000	$290,000	$4,025,583

General

Project Name City Hall Improvements | **Project Number** 1023

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Josh Wolffe

Scope Provides funds for upgrades, modifications and improvements of the City Hall facility and equipment.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	990,300	273,637						273,637	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$990,300**	**$273,637**						**$273,637**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	866,300	61,518						61,518	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant	34,000	212,119						212,119	
(95) SRF									
(96) CDBG	90,000								
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$990,300**	**$273,637**						**$273,637**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

Council Chambers security improvements FY 26-27

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

General

Project Name General Plan Implementation and Future Update **Project Number** 1080

Estimated Start Date Ongoing **Lead Department** Development Services

Estimated Completion Date Ongoing **Project Manager** Doug Libby

Scope Provides funds to implement Yuba City's General Plan, Housing Element, SOI expansion, Annexation processes, supporting studies, and a community visioning process.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction									
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense	340,000	857,980	82,500	250,000	250,000	250,000	250,000	1,940,480	
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$340,000**	**$857,980**	**$82,500**	**$250,000**	**$250,000**	**$250,000**	**$250,000**	**$1,940,480**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	340,000	857,980	82,500	250,000	250,000	250,000	250,000	1,940,480	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$340,000**	**$857,980**	**$82,500**	**$250,000**	**$250,000**	**$250,000**	**$250,000**	**$1,940,480**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	$250k annual allocation for future comprehensive General Plan update to be completed by 2040.
Other	-	
Total Impact	-	

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

General

Project Name Citywide Accela/Technology Funding **Project Number** 1283

Estimated Start Date July 2021 **Lead Department** Development Services

Estimated Completion Date Ongoing **Project Manager** Doug Libby

Scope Install, upgrade, and maintain various software including; Accela, yc311, CivicPlus, Pentamation etc. for City-specific needs.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction									
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense	65,000	65,000	40,000	40,000	40,000	40,000	40,000	265,000	
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$65,000**	**$65,000**	**$40,000**	**$40,000**	**$40,000**	**$40,000**	**$40,000**	**$265,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	65,000	65,000	40,000	40,000	40,000	40,000	40,000	265,000	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$65,000**	**$65,000**	**$40,000**	**$40,000**	**$40,000**	**$40,000**	**$40,000**	**$265,000**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	On-going city-wide support services for Accela.
Other	-	
Total Impact	-	

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

General

Project Name ERP/HR/Payroll/Utility Billing Upgrade **Project Number** 1313

Estimated Start Date July 2022 **Lead Department** Information Technology

Estimated Completion Date June 2027 **Project Manager** Brian Hansen

Scope Replace existing Finance, HR, Payroll and Utility Billing software with modern software emphasizing on ease of use, customizable, enhanced capabilities, and modern interface that is more approachable for the next generation of City employees Funded by ARPA.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	892,069	936,056						936,056	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$892,069**	**$936,056**						**$936,056**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant	892,069	936,056						936,056	
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$892,069**	**$936,056**						**$936,056**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	the GF will cover additional staffing; the ISF will cover additional purchase cost.
Other	-	
Total Impact	-	

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

General

Project Name 442 B Street Environmental Assessment

Project Number 1335

Estimated Start Date May 2025

Lead Department Development Services

Estimated Completion Date January 2026

Project Manager Doug Libby

Scope To develop Environmental Assessment and an approved cleanup workplan for 442 B Street including; community engagement, investigative-workplan, implementation, testing, and pilot study.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction									
65502	Design/ Engineering									
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense	700,000								
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$700,000**								

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act									
(92)	Streets and Roads									
(93)	DIF									
(94)	Federal Grant									
(95)	SRF	700,000								
(96)	CDBG									
(97)	Water									
(98)	Wastewater									
	Other									
	Annual Funding Total	**$700,000**								

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	duplicate account to 1334
Other	-	
Total Impact	-	

☐ **Project Complete** ☑ **Project Deleted** ☐ **Future Project**

General

Project Name Fleet Master Plan **Project Number** 1336

Estimated Start Date July 2024 **Lead Department** Public Works

Estimated Completion Date December 2026 **Project Manager** Josh Wolffe

Scope Provides funding to prepare a master planning document for the Fleet Division, including consideration of potential new Public Safety coverage areas and eventual conversion of City vehicles to electrical power.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	49,580	10,410						10,410	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$49,580**	**$10,410**						**$10,410**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	20,040	9,960						9,960	
(91) Trans. Devel. Act									
(92) Streets and Roads	9,846	150						150	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	9,847	150						150	
(98) Wastewater	9,847	150						150	
Other									
Annual Funding Total	**$49,580**	**$10,410**						**$10,410**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Current funding includes staff time to develop scope, prepare and issue a request for proposal, and research/apply for potential grant funding.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

General

Project Name RCN - SR20 Bike/Pedestrian Crossing **Project Number** 1353

Estimated Start Date March 2025 **Lead Department** Development Services

Estimated Completion Date December 2029 **Project Manager** Doug Libby

Scope SR20 bike/pedestrian crossing feasibility study, green zone objective design standards, and Central City Specific Plan update.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		250,000						250,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$250,000**						**$250,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant		250,000						250,000	
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$250,000**						**$250,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

Development Services has received a grant through SACOG for the Reconnecting Communitites Program for $750k. This grant will allow the City to update our design standards and the Central City Specific Plan, as well as perform a feasibility study for the SR20

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

General

Project Name RCN - Central City Specific Plan and Design Updates **Project Number** 1354

Estimated Start Date March 2025 **Lead Department** Development Services

Estimated Completion Date December 2029 **Project Manager** Doug Libby

Scope Central City Specific Plan Update and Green Zone Objective Design Standards Update

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction									
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense		350,000						350,000	
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$350,000**						**$350,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant		350,000						350,000	
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$350,000**						**$350,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

Funded through Reconnecting Communities and Neighboorhoods Grants (RCNG) from the US Department of Transporation.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

City of Yuba City
Summary of Capital Improvement Program Projects
Current Facilities Projects

Account	Project Name	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
1028	Improvements to Buildings and Grounds	586,050	195,000					781,050
1209	Union Pacific Railroad Property Acquisition	43,958						43,958
		$630,008	$195,000					$825,008

Sources of Funds	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
General	273,517						273,517
Transportation Development Act	977						977
Streets and Roads	43,311	60,000					103,311
DIF	26,581						26,581
Federal Grant							
SRF							
CDBG							
Water	16,740	65,000					81,740
Wastewater	268,882	70,000					338,882
Other							
	$630,008	$195,000					$825,008

Facilities

Project Name Improvements to Buildings and Grounds | **Project Number** 1028

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Josh Wolffe

Scope Provides funds to maintain and improve various City Facilities.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	1,803,536	586,050	195,000					781,050	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$1,803,536**	**$586,050**	**$195,000**					**$781,050**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	1,292,654	253,978						253,978	
(91) Trans. Devel. Act									
(92) Streets and Roads	106,274	19,869	60,000					79,869	
(93) DIF	92,000	26,581						26,581	
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	147,274	16,740	65,000					81,740	
(98) Wastewater	165,334	268,882	70,000					338,882	
Other									
Annual Funding Total	**$1,803,536**	**$586,050**	**$195,000**					**$781,050**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

FY 25/26 Corp Yard Roof Conversion and Repairs ($225K)
FY 26/27 WWTF Lab HVAC replacement ($100k)
FY 27/28WWTF Lab floor coating ($60k), Lab roof repair ($25k)
FY 27/28 WWTF Lab cabinet/countertop replacement ($75k)

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Facilities

Project Name Union Pacific Railroad Property Acquisition **Project Number** 1209

Estimated Start Date July 2015 **Lead Department** Public Works

Estimated Completion Date June 2030 **Project Manager** Josh Wolffe

Scope Provides funds for Right-of-Way acquisition, professional costs, and costs associated with pursuing grants, which may lead to the acquisition of the Union Pacific Railroad properties throughout the City.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	79,900								
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense	36,248	43,958						43,958	
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$116,148**	**$43,958**						**$43,958**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	69,648	19,539						19,539	
(91) Trans. Devel. Act	3,200	977						977	
(92) Streets and Roads	43,300	23,442						23,442	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$116,148**	**$43,958**						**$43,958**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

City of Yuba City
Summary of Capital Improvement Program Projects
Current Community Services Projects

Account	Project Name	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
1127	Capital Repl. Prog - Gauche Aquatic Park	205,113						205,113
1222	Annual Playground Replacement	262,962	200,000	200,000	200,000	200,000	200,000	1,262,962
1259	Well Installations & Upgrades	205,576	100,000	100,000	100,000	100,000	100,000	705,576
1287	Senior Center Building Repairs	80,272						80,272
1298	Town Center Fountain	54,042						54,042
1300	Sam Brannan Improvements	132,386						132,386
1337	Veterans Park Replacement	20,000						20,000
		$960,351	$300,000	$300,000	$300,000	$300,000	$300,000	$2,460,351

Sources of Funds	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
General	960,351	300,000	300,000	300,000	300,000	300,000	2,460,351
Transportation Development Act							
Streets and Roads							
DIF							
Federal Grant							
SRF							
CDBG							
Water							
Wastewater							
Other							
	$960,351	$300,000	$300,000	$300,000	$300,000	$300,000	$2,460,351

Community Services

Project Name Capital Repl. Prog - Gauche Aquatic Park **Project Number** 1127

Estimated Start Date July 2010 **Lead Department** Community Services

Estimated Completion Date Ongoing **Project Manager** Ann Gillen

Scope Funding is needed to maintain the equpment and facility that serves the 30,000 participants that attend Gauche Aquatic Park in the summer. This also provides funds to create a reserve fund for capital item repair and replacement at the Gauche Aquatic Park that is difficult to anticipate, i.e. deck repairs, slide replacement, pool resurfacing, shade sail replacement and water play feature repair and replacement.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		205,113						205,113	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$205,113**						**$205,113**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General		205,113						205,113	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$205,113**						**$205,113**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	(2,000)	
Capital	-	Minimized Maintenance
Other	-	
Total Impact	-	

Projects

Slide Repair
Roof Repair



☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Community Services

Project Name Annual Playground Replacement

Project Number 1222

Estimated Start Date November 2016

Lead Department Community Services

Estimated Completion Date Ongoing

Project Manager Ernesto Hernandez

Scope The average life of a playstructure is 20 years. The next park to be replaced will be Hillcrest Park which will be 27 years old in 2026. This is our largest playground structure and therefore the most expensive. Saving for this park has put it behind schedule as well as pushing out other park replacements.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	99,774	262,962	200,000	200,000	200,000	200,000	200,000	1,262,962	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$99,774**	**$262,962**	**$200,000**	**$200,000**	**$200,000**	**$200,000**	**$200,000**	**$1,262,962**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General		262,962	200,000	200,000	200,000	200,000	200,000	1,262,962	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG	99,774								
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$99,774**	**$262,962**	**$200,000**	**$200,000**	**$200,000**	**$200,000**	**$200,000**	**$1,262,962**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	(2,000)
Capital	-
Other	-
Total Impact	(2,000)



Projects

Hillcrest Playground Replacement $525,000 - currently 27 years old
Greenwood Playground Replacement - currently 24 years old
Regency Playground Replacement - currently 22 years old
Blackburn-Talley Playground Replacement - currently 20 years old
Holly Tree Park Playground Replacement - currently 18 years old

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Community Services

Project Name Well Installations & Upgrades

Project Number 1259

Estimated Start Date July 2022

Lead Department Community Services

Estimated Completion Date Ongoing

Project Manager Ernesto Hernandez

Scope Provides funds to install and replace existing wells in Yuba City Parks. Wells will reduce domestic water usage and cost. Currently the Parks Department is spending $135,000 per year to irrigate parks with domestic water.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		205,576	100,000	100,000	100,000	100,000	100,000	705,576	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$205,576**	**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$705,576**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General		205,576	100,000	100,000	100,000	100,000	100,000	705,576	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$205,576**	**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$705,576**	

Annual Impact on Operating Budget

Personnel	-
Supplies	16,500
Services	-
Capital	-
Other	(20,000)
Total Impact	(3,500)

Will reduce water by approximately ($20,000) per well per year.

Projects

Greenwood Park
Shanghai Garden Park
Kingwood Park
Lloyd Park



☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Community Services

Project Name Plumas Street Improvements | **Project Number** 1268

Estimated Start Date July 2019 | **Lead Department** Public Works

Estimated Completion Date January 2026 | **Project Manager** Josh Wolffe

Scope Various restoration and improvements to Plumas Street Historic District.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,553,290								
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,553,290**								

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	325,940								
(92) Streets and Roads	241,090								
(93) DIF									
(94) Federal Grant									
(95) SRF	1,986,260								
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$2,553,290**								

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	Close project and unallocate to respective funds.
Other	-	
Total Impact	-	

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Community Services

Project Name Senior Center Building Repairs

Project Number 1287

Estimated Start Date July 2022

Lead Department Community Services

Estimated Completion Date Ongoing

Project Manager Anthony Brunson

Scope Funding to repair dry rot and water intrusion issues in the facility. The work will include structural repairs of dry rot damage and stucco work to address large cracks in the stucco and the lack of a weep screed along the bottom of the walls, resulting in water intrusion. The entire facility will also be re-modernized inside.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	97,449	80,272						80,272	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$97,449**	**$80,272**						**$80,272**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	97,449	80,272						80,272	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$97,449**	**$80,272**						**$80,272**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-



☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Community Services

Project Name Town Center Fountain

Project Number 1298

Estimated Start Date July 2022

Lead Department Community Services

Estimated Completion Date ongoing

Project Manager Ann Gillen

Scope The Town Square Fountain was constructed around 1996. The concrete structure and mechancial parts need to be replaced and repaired. Costs to replace fountain are estimated at $500,000.00

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		54,042						54,042	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$54,042**						**$54,042**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General		54,042						54,042	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$54,042**						**$54,042**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	(3,000)
Capital	-
Other	-
Total Impact	(3,000)



☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Community Services

Project Name Sam Brannan Improvements

Project Number 1300

Estimated Start Date September 2022

Lead Department Community Services

Estimated Completion Date Ongoing

Project Manager Ernesto Hernandez

Scope Create a reserve to manage the maintenance and repair of the pickleball surfacing, skate park, lighting, and picnic areas at Sam Brannan Park.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		132,386						132,386	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$132,386**						**$132,386**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General		132,386						132,386	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$132,386**						**$132,386**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-



☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Community Services

Project Name Veterans Park Replacement

Project Number 1337

Estimated Start Date 2026

Lead Department Community Services

Estimated Completion Date 2027

Project Manager Ernesto Hernandez

Scope Includes a new 36"x36" bronze plaque with installation, new electrical and lighting, and vandalism prevention for the monument, flag, and for a new flag pole.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		20,000						20,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$20,000**						**$20,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General		20,000						20,000	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$20,000**						**$20,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-



☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

City of Yuba City
Summary of Capital Improvement Program Projects
Current Public Safety Projects

Account	Project Name	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
0067	Station 4 Plumbing Overhaul		100,000					100,000
1236	Fire Station No.2 Remodel	145,000						145,000
1237	Fire Station Repair and Renovation	218,752	85,000					303,752
1280	Fire Station No.4 Training Grounds	58,000						58,000
1356	CAD System Radio Upgrades	1,000,000						1,000,000
		$1,421,752	$185,000					$1,606,752

Sources of Funds	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
General	421,752	185,000					606,752
Transportation Development Act							
Streets and Roads							
DIF							
Federal Grant							
SRF							
CDBG							
Water							
Wastewater							
Other	1,000,000						1,000,000
	$1,421,752	$185,000					$1,606,752

Public Safety

Project Name Station 4 Plumbing Overhaul **Project Number** 67

Estimated Start Date 2026 **Lead Department** Fire Department

Estimated Completion Date 2026 **Project Manager** Josh Hubbard

Scope Exisiting station 4 plumbing issues has resulted in investigation of the plumbing in station 4. Findings show that installed plumbing was installed incorrectly which now requires extensive overhaul, ground tearout and replacement. It is anticipated that the scope of the project could be upwards of $100,000.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction			100,000					100,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total			**$100,000**					**$100,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General			100,000					100,000	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total			**$100,000**					**$100,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

Projects

Plumbing Replacement
Ground Excavation and Repair

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Public Safety

Project Name Fire Station No.2 Remodel

Project Number 1236

Estimated Start Date July 2021

Lead Department Fire Department

Estimated Completion Date June 2026

Project Manager Josh Hubbard

Scope Funding for the addition of a dorm area and remodel Fire Station 2. Dorm portion has been complete as of late 2025. Will complete the alerting system, convert old dorm space and replace apparatus bay doors.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	195,000	145,000						145,000	
65502	Design/ Engineering									
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense									
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$195,000**	**$145,000**						**$145,000**	

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General	195,000	145,000						145,000	
(91)	Trans. Devel. Act									
(92)	Streets and Roads									
(93)	DIF									
(94)	Federal Grant									
(95)	SRF									
(96)	CDBG									
(97)	Water									
(98)	Wastewater									
	Other									
	Annual Funding Total	**$195,000**	**$145,000**						**$145,000**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	Funded through Fire Administration
Other	-	Special Revenue Fund
Total Impact	-	

Projects

Convert Existing Dorm Room to Gym/FreeSpace
Station Alerting
App Bay Doors

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Public Safety

Project Name Fire Station Repair and Renovation **Project Number** 1237

Estimated Start Date July 2020 **Lead Department** Fire Department

Estimated Completion Date Ongoing **Project Manager** Josh Hubbard

Scope Provide funding for various repair, renovation & maintenance projects at the City's Fire Stations and Administration Building. Unforseen emergency repairs to facilities and grounds. Continue with App bay door replacement as needed.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	653,058	218,752	85,000					303,752	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$653,058**	**$218,752**	**$85,000**					**$303,752**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	653,058	218,752	85,000					303,752	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$653,058**	**$218,752**	**$85,000**					**$303,752**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

HVAC for Station 1
Station 1 Alerting System
App Bay Doors
Fire Admin Storage System
Station 4 Paint
Station 1 Paint

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Public Safety

Project Name Fire Station No.4 Training Grounds **Project Number** 1280

Estimated Start Date July 2021 **Lead Department** Fire Department

Estimated Completion Date Ongoing **Project Manager** Josh Hubbard

Scope The fenced in training grounds will host two required ISO components (enhanced burn building and training tower) and offer realistic and versatile training that will benefit both YCFD/YCPD personnel. Continuation of training ground build out which includes sub projects listed.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	194,695	58,000						58,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$194,695**	**$58,000**						**$58,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	194,695	58,000						58,000	
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$194,695**	**$58,000**						**$58,000**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	1,000	
Services	-	
Capital	-	Funded through Fire Administration
Other	-	Special Revenue Fund
Total Impact	1,000	

Projects

Ventilation Prop
Equipment and Materials

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Public Safety

Project Name CAD System Radio Upgrades | **Project Number** 1356

Estimated Start Date July 2025 | **Lead Department** Police Department

Estimated Completion Date June 2026 | **Project Manager** James Runyen

Scope System upgrades to current CAD System and portable radios.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		1,000,000						1,000,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$1,000,000**						**$1,000,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other		1,000,000						1,000,000	
Annual Funding Total		**$1,000,000**						**$1,000,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

Funded through COPS Grant, Traffic Safety Revenue and Stop Fund

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

City of Yuba City
Summary of Capital Improvement Program Projects
Current Streets Projects

Account	Project Name	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
0001	Transportation Safety Improvements		100,000					100,000
0002	Citywide Pavement Condition Assessment and Pl		300,000					300,000
0003	George Washington Pavement Rehabilitation		104,000	1,709,000				1,813,000
1024	Striping and Marking	530,255	150,000	150,000	150,000	150,000	150,000	1,280,255
1025	Drainage Improvements	274,990	200,000					474,990
1051	Road Rehabilitation	1,866,704	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	6,866,704
1069	Tuly Parkway - Queens Ave Extension	1,298,335						1,298,335
1180	Consolidated Streetlight District-Acquisition and C	822,961						822,961
1188	Stormwater Management Program	124,760	118,800	118,800	118,800	118,800	118,800	718,760
1213	Residential Road Rehabilitation	2,311,202	500,000	500,000	500,000	500,000	500,000	4,811,202
1220	ADA Public Facilities Sidewalk Improvements	37,161	88,000	200,000	200,000	200,000	200,000	925,161
1241	Center Bore Street Light Pole Replacement Proje	25,000	75,000					100,000
1243	Bridge Street Utility Undergrounding	25,140	50,000					75,140
1255	Road Maintenance and Rehab. Account (RMRA)	1,934,740	1,903,000	1,969,610	2,038,540	2,109,890	2,183,740	12,139,520
1266	Sutter Bike Path Gap Closure	2,287,000						2,287,000
1276	Bridge Street Reconstruction Development Phase	272,880						272,880
1295	Bogue Road Improvements - SR 99 to Railroad A	8,801,587						8,801,587
1296	Prop 1 IRWM - Gilsizer North Detention Basin Im	781,480	75,000					856,480
1297	Prop 1 IRWM - Lincoln Road Trash Capture Proje	472,020	75,000					547,020
1301	Butte House Road Community Design Improvem	551,510						551,510
1302	Walton Avenue Improvements	5,054,400						5,054,400
1315	Roadway Safety Signing Audit and Upgrades	1,481,460						1,481,460
1319	EV Charging Stations		258,000					258,000
1340	Sidewalk Inspection and Repair	290,000						290,000
1341	Garden Highway Improvements	969,000	3,903,000					4,872,000
1343	Bird St. and Market St. Safety Improvements	56,500	230,500					287,000
1344	El Margarita and SR-20 Safety Improvements	40,000	150,000					190,000
1345	Bogue Road - State Route 99 Intersection Improv	670,000						670,000
1346	Levee Crossing Inspections	375,000					468,750	843,750
1357	Electric Vehicle Infrastructue Plan		305,100					305,100
		$31,354,085	$9,585,400	$5,647,410	$4,007,340	$4,078,690	$4,621,290	$59,294,215

Sources of Funds	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
General		43,800	43,800	43,800	43,800	43,800	219,000
Transportation Development Act	5,348,611	1,675,000	1,150,000	1,150,000	1,150,000	1,150,000	11,623,611
Streets and Roads	13,081,945	2,902,050	2,608,610	2,573,540	2,644,890	2,919,990	26,731,025
DIF	1,855,113	150,000					2,005,113
Federal Grant	6,284,000						6,284,000
SRF	2,927,540	4,380,550	1,605,000				8,913,090
CDBG	37,161	88,000	200,000	200,000	200,000	200,000	925,161
Water	1,748,213	20,000	20,000	20,000	20,000	235,000	2,063,213
Wastewater	71,502	135,000	20,000	20,000	20,000	72,500	339,002
Other		191,000					191,000
	$31,354,085	$9,585,400	$5,647,410	$4,007,340	$4,078,690	$4,621,290	$59,294,215

Streets

Project Name Transportation Safety Improvements | **Project Number** 1

Estimated Start Date July 2026 | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Josh Wolffe

Scope Annual project which will implement transporation safety and traffic calming improvements.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction			100,000					100,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total			**$100,000**					**$100,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads			100,000					100,000	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total			**$100,000**					**$100,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

Projects

2027 Traffic Safety Improvements
2028 Traffic Safety Improvements
2029 Traffic Safety Improvements
2030 Traffic Safety Improvements
2031 Traffic Safety Improvements

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Citywide Pavement Condition Assessment and Planning **Project Number** 2

Estimated Start Date July 2026 **Lead Department** Public Works

Estimated Completion Date June 2027 **Project Manager** Josh Wolffe

Scope Project will allow for data collection and analysis to update City's pavement network conditions, and plan for future preventative maintenance and rehabilitation projects.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction									
65502 Design/ Engineering			300,000					300,000	
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total			**$300,000**					**$300,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act			300,000						
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total			**$300,000**						

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name George Washington Pavement Rehabilitation | **Project Number** 3

Estimated Start Date July 2026 | **Lead Department** Public Works

Estimated Completion Date November 2028 | **Project Manager** Josh Wolffe

Scope N. George Washington Boulevard, from Franklin Road to State Route 20: Roadway rehabilitation including 6" depth pavement repairs, 0.20' overlay, and striping/signage improvements for bicycle lane creation.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction				1,709,000				1,709,000	
65502 Design/ Engineering			104,000					104,000	
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total			**$104,000**	**$1,709,000**				**$1,813,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads			104,000	104,000				208,000	
(93) DIF									
(94) Federal Grant									
(95) SRF				1,605,000				1,605,000	
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total			**$104,000**	**$1,709,000**				**$1,813,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

State funds are from SACOG-administered Surface Transportation Improvement Program(STIP).

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Striping and Marking | **Project Number** 1024

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Jasmine Solano

Scope Provides funds for the striping and marking of various City streets throughout the community.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,065,029	530,255	150,000	150,000	150,000	150,000	150,000	1,280,255	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,065,029**	**$530,255**	**$150,000**	**$150,000**	**$150,000**	**$150,000**	**$150,000**	**$1,280,255**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	975,029	530,255	150,000	150,000	150,000	150,000	150,000	1,280,255	
(92) Streets and Roads	1,090,000								
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$2,065,029**	**$530,255**	**$150,000**	**$150,000**	**$150,000**	**$150,000**	**$150,000**	**$1,280,255**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

2027 Striping Project
2028 Striping Project
2029 Striping Project
2030 Striping Project
2031 Striping Project

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Drainage Improvements | **Project Number** 1025

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Kevin Bradford

Scope Provides funding to continue upgrading drainage throughout the City.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,076,588	274,990	200,000					474,990	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,076,588**	**$274,990**	**$200,000**					**$474,990**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	131,000	200,000						200,000	
(92) Streets and Roads	1,945,588	74,990	85,000					159,990	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater			115,000					115,000	
Other									
Annual Funding Total	**$2,076,588**	**$274,990**	**$200,000**					**$474,990**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	2,000
Capital	-
Other	-
Total Impact	2,000

Projects

Design: Lincoln Road Storm Drain Crossing

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Traffic Signals | **Project Number** 1027

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Josh Wolffe

Scope Provides funds for the construction of, and upgrades to, traffic signals at various City intersections.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,375,846	641,402						641,402	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,375,846**	**$641,402**						**$641,402**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	275,394	705,854						705,854	
(92) Streets and Roads	662,452	(64,452)						(64,452)	
(93) DIF	1,438,000								
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$2,375,846**	**$641,402**						**$641,402**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	2,000	
Capital	-	Close project and unallocate to respective funds.
Other	-	
Total Impact	2,000	

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Road Rehabilitation | **Project Number** 1051

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Jasmine Solano

Scope Provides funding for the ongoing maintenance and rehabilitation of streets throughout the City.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	10,483,107	1,866,704	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	6,866,704	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$10,483,107**	**$1,866,704**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$6,866,704**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	1,297,000	1,599,520	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	6,599,520	
(92) Streets and Roads	9,186,107	267,184						267,184	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$10,483,107**	**$1,866,704**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$6,866,704**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

2027 Pavement Repairs Project
2027 Resurfacing Project
2028 Pavement Repairs Project
2028 Resurfacing Project

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Tuly Parkway - Queens Ave Extension **Project Number** 1069

Estimated Start Date April 2017 **Lead Department** Public Works

Estimated Completion Date December 2028 **Project Manager** Josh Wolffe

Scope Provides funds to extend Tuly Parkway and Queens Avenue north of Butte House Road and west of Blevin Road.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	1,174,736	1,298,335						1,298,335	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$1,174,736**	**$1,298,335**						**$1,298,335**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	404,000	20						20	
(92) Streets and Roads	73,636	630,342						630,342	
(93) DIF	697,100	667,973						667,973	
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$1,174,736**	**$1,298,335**						**$1,298,335**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	2,000
Capital	-
Other	-
Total Impact	2,000

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Consolidated Streetlight District-Acquisition and Conversion **Project Number** 1180

Estimated Start Date July 2013 **Lead Department** Public Works

Estimated Completion Date December 2026 **Project Manager** Josh Wolffe

Scope Utilizes Consolidated Streetlight District funds collected by Sutter County to purchase streetlights within the district from PG&E.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		822,961						822,961	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing	4,000								
Annual Project Total	**$4,000**	**$822,961**						**$822,961**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads		822,961						822,961	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other	4,000								
Annual Funding Total	**$4,000**	**$822,961**						**$822,961**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Stormwater Management Program | **Project Number** 1188

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** William Jow

Scope Provides funds to implement NPDES MS4 Phase II permit requirements.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	1,153,811	124,760	118,800	118,800	118,800	118,800	118,800	718,760	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$1,153,811**	**$124,760**	**$118,800**	**$118,800**	**$118,800**	**$118,800**	**$118,800**	**$718,760**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General	393,932		43,800	43,800	43,800	43,800	43,800	219,000	
(91) Trans. Devel. Act	260,900	12,926						12,926	
(92) Streets and Roads	90,879	34,666	35,000	35,000	35,000	35,000	35,000	209,666	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	204,000	37,213	20,000	20,000	20,000	20,000	20,000	137,213	
(98) Wastewater	204,100	39,955	20,000	20,000	20,000	20,000	20,000	139,955	
Other									
Annual Funding Total	**$1,153,811**	**$124,760**	**$118,800**	**$118,800**	**$118,800**	**$118,800**	**$118,800**	**$718,760**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Pavement Management System | **Project Number** 1190

Estimated Start Date Ongoing | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Josh Wolffe

Scope Provides funds to collect data and update the City's pavement management system.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	9,500								
65502 Design/ Engineering	69,000								
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense	81,000	5,294						5,294	
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$159,500**	**$5,294**						**$5,294**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	16,000								
(92) Streets and Roads	143,500	5,294						5,294	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$159,500**	**$5,294**						**$5,294**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	Close project and unallocate to respective funds.
Other	-	
Total Impact	-	

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Residential Road Rehabilitation | **Project Number** 1213

Estimated Start Date July 2015 | **Lead Department** Public Works

Estimated Completion Date Ongoing | **Project Manager** Jasmine Solano

Scope Provides funds from Solid Waste Yuba·Sutter, franchise fees for maintenance of local streets.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	1,312,846	2,311,202	500,000	500,000	500,000	500,000	500,000	4,811,202	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$1,312,846**	**$2,311,202**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$4,811,202**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	1,312,846	2,311,202	500,000	500,000	500,000	500,000	500,000	4,811,202	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$1,312,846**	**$2,311,202**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$4,811,202**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

2027 Resurfacing Project
2028 Resurfacing Project
2029 Resurfacing Project
2030 Resurfacing Project
2031 Resurfacing Project

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name ADA Public Facilities Sidewalk Improvements **Project Number** 1220

Estimated Start Date July 2014 **Lead Department** Public Works

Estimated Completion Date Ongoing **Project Manager** Jasmine Solano

Scope Provides funding to construct ADA Improvements in accordance with the City's Transition Plan for the Public right-of-way.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	2,293,055	37,161	88,000	200,000	200,000	200,000	200,000	925,161	
65502	Design/ Engineering	81,000								
65503	Const/Admin Cost	36,000								
65504	Contingency	46,000								
65514	Professional Expense									
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$2,456,055**	**$37,161**	**$88,000**	**$200,000**	**$200,000**	**$200,000**	**$200,000**	**$925,161**	

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act	100,100								
(92)	Streets and Roads	176,955								
(93)	DIF									
(94)	Federal Grant									
(95)	SRF									
(96)	CDBG	2,179,000	37,161	88,000	200,000	200,000	200,000	200,000	925,161	
(97)	Water									
(98)	Wastewater									
	Other									
	Annual Funding Total	**$2,456,055**	**$37,161**	**$88,000**	**$200,000**	**$200,000**	**$200,000**	**$200,000**	**$925,161**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

2026 ADA & Sidewalk Improvements Project
2027 ADA & Sidewalk Improvements Project
2028 ADA & Sidewalk Improvements Project
2029 ADA & Sidewalk Improvements Project
2030 ADA & Sidewalk Improvements Project

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Center Bore Street Light Pole Replacement Project **Project Number** 1241

Estimated Start Date September 2017 **Lead Department** Public Works

Estimated Completion Date Ongoing **Project Manager** Josh Wolffe

Scope Provides funds to replace aging center bore wooden street light poles with metal poles prior to the end of their life expectancy.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	75,000	25,000	75,000					100,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$75,000**	**$25,000**	**$75,000**					**$100,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	75,000	25,000	75,000					100,000	
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$75,000**	**$25,000**	**$75,000**					**$100,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

2026 Wooden Pole Replacement Project
2027 Wooden Pole Replacement Project

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Bridge Street Utility Undergrounding **Project Number** 1243

Estimated Start Date July 2017 **Lead Department** Public Works

Estimated Completion Date December 2026 **Project Manager** Kevin Bradford

Scope Provides funds to establish a Utility Underground District along Bridge Street from Gray Avenue to 2nd Street. Work will involve coordinating with PG&E to initiate the Rule 20A process.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	48,099	25,140	50,000					75,140	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$48,099**	**$25,140**	**$50,000**					**$75,140**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	45,599	11,040	50,000					61,040	
(93) DIF	2,500	14,100						14,100	
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$48,099**	**$25,140**	**$50,000**					**$75,140**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Road Maintenance and Rehab. Account (RMRA) **Project Number** 1255

Estimated Start Date January 2018 **Lead Department** Public Works

Estimated Completion Date Ongoing **Project Manager** Josh Wolffe

Scope Allocates SB1 fuel tax and registration revenues for various road maintenance and rehabilitation projects which are listed in the City's annual SB1 Project List.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,756,800	1,934,740	1,903,000	1,969,610	2,038,540	2,109,890	2,183,740	12,139,520	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,756,800**	**$1,934,740**	**$1,903,000**	**$1,969,610**	**$2,038,540**	**$2,109,890**	**$2,183,740**	**$12,139,520**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	2,756,800	1,934,740	1,903,000	1,969,610	2,038,540	2,109,890	2,183,740	12,139,520	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$2,756,800**	**$1,934,740**	**$1,903,000**	**$1,969,610**	**$2,038,540**	**$2,109,890**	**$2,183,740**	**$12,139,520**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

Bogue Road Improvements (FY 26-27)
Walton Avenue Improvements (FY 26-27)
Garden Highway Improvements (FY 27-28)
Stabler Lane Improvements (FY 28+)
Harter Parkway Improvements (FY 28+)

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Sutter Bike Path Gap Closure

Project Number 1266

Estimated Start Date January 2016

Lead Department Public Works

Estimated Completion Date August 2026

Project Manager Josh Wolffe

Scope To construct a Class I bike path extension from Hooper Avenue to Harter Parkway, and a Class I shared use path on Harter Parkway from Butte House Road to State Route 20.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	324,803	2,287,000						2,287,000	
65502	Design/ Engineering									
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense									
65517	Prop./ ROW Acquistion	5,976								
65518	Equipment/ Furnishing									
	Annual Project Total	**$330,779**	**$2,287,000**						**$2,287,000**	

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act	280,335	150,000						150,000	
(92)	Streets and Roads	50,444								
(93)	DIF									
(94)	Federal Grant		1,984,000						1,984,000	
(95)	SRF		153,000						153,000	
(96)	CDBG									
(97)	Water									
(98)	Wastewater									
	Other									
	Annual Funding Total	**$330,779**	**$2,287,000**						**$2,287,000**	

Annual Impact on Operating Budget

Personnel	1,000
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	1,000

Federal funds are Regional Surface Transportation/State Transportation Program Block Grant funds. State funds are Active Transportation Program funds.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Bridge Street Reconstruction Development Phase **Project Number** 1276

Estimated Start Date July 2020 **Lead Department** Public Works

Estimated Completion Date December 2028 **Project Manager** Kevin Bradford

Scope Provides funds to complete the environmental and design phases for roadway improvements that will support biking, walking, and increased traffic volumes on Bridge Street between State Route 99 and Gray Avenue and between Cooper Avenue and Second Street.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	200	272,880						272,880	
65502	Design/ Engineering	4,000								
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense									
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$4,200**	**$272,880**						**$272,880**	

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act	4,200	23,960						23,960	
(92)	Streets and Roads		248,920						248,920	
(93)	DIF									
(94)	Federal Grant									
(95)	SRF									
(96)	CDBG									
(97)	Water									
(98)	Wastewater									
	Other									
	Annual Funding Total	**$4,200**	**$272,880**						**$272,880**	

Annual Impact on Operating Budget

Personnel	3,000
Supplies	-
Services	2,000
Capital	-
Other	-
Total Impact	5,000

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Bogue Road Improvements - SR 99 to Railroad Ave **Project Number** 1295

Estimated Start Date November 2021 **Lead Department** Public Works

Estimated Completion Date November 2026 **Project Manager** Nick Menezes

Scope Construction of transportation and wastewater collection improvements on Bogue Road from SR-99 to Railroad Avenue to address capacity issues and accommodate new development in the Bogue Stewart Master Plan area. City received $2 million in ARPA funds for wastewater construction in Fiscal Year 21/22.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	6,432,094	8,801,587						8,801,587	
65502	Design/ Engineering									
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense									
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$6,432,094**	**$8,801,587**						**$8,801,587**	

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act	20,000	1,535,000						1,535,000	
(92)	Streets and Roads	55,782	5,235,000						5,235,000	
(93)	DIF	349,104	503,040						503,040	
(94)	Federal Grant	4,551,694								
(95)	SRF									
(96)	CDBG									
(97)	Water		1,539,000						1,539,000	
(98)	Wastewater	1,455,514	(10,453)						(10,453)	
	Other									
	Annual Funding Total	**$6,432,094**	**$8,801,587**						**$8,801,587**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	100.00%
Bonds/Grants	0.00%

DIF funding consists of Third Bridge R/W transfer.TDA funding consists of Drainage and Road Rehab transfers in FY 2025-26.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Prop 1 IRWM - Gilsizer North Detention Basin Improvements **Project Number** 1296

Estimated Start Date June 2022 **Lead Department** Public Works

Estimated Completion Date December 2026 **Project Manager** William Jow

Scope Provides funding to improve the detention basin east of the City's Corporation Yard, construct a cover for the existing fuel station at the Corporation Yard, and install retractable tarps for the bulk material storage areas at the Corp Yard. State funding is through a North Sacramento Valley Intergrated Regional Water Management Proposition 1, Round 1 grant.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	125,224	781,480	75,000					856,480	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$125,224**	**$781,480**	**$75,000**					**$856,480**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	32,697	262,080	75,000					337,080	
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF	92,527	519,400						519,400	
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$125,224**	**$781,480**	**$75,000**					**$856,480**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Prop 1 IRWM - Lincoln Road Trash Capture Project **Project Number** 1297

Estimated Start Date June 2022 **Lead Department** Public Works

Estimated Completion Date December 2026 **Project Manager** William Jow

Scope Provides funding to install a trash capture device to a newly constructed concrete pad at the bottom of Gilsizer Slough downstream of Lincoln Road. State funding is through a North Sacramento Valley Intergrated Regional Water Management Proposition 1, Round 1 grant.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	91,210	472,020	75,000					547,020	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$91,210**	**$472,020**	**$75,000**					**$547,020**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	24,849	168,340	75,000					243,340	
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF	66,361	303,680						303,680	
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$91,210**	**$472,020**	**$75,000**					**$547,020**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Butte House Road Community Design Improvements **Project Number** 1301

Estimated Start Date July 2022 **Lead Department** Public Works

Estimated Completion Date December 2027 **Project Manager** Santiago Carrillo

Scope Construct bicycle and pedestrian improvements on the north side of Butte House Road between Tharp Road and Blevin Road.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	10,750	551,510						551,510	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$10,750**	**$551,510**						**$551,510**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	10,750	551,510						551,510	
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$10,750**	**$551,510**						**$551,510**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	500
Capital	-
Other	-
Total Impact	500

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Walton Avenue Improvements | **Project Number** 1302

Estimated Start Date September 2022 | **Lead Department** Public Works

Estimated Completion Date December 2026 | **Project Manager** Nick Menezes

Scope Rehabilitate and modernize Walton Avenue between Hazel Avenue and Sam's Club, including new bicycle and pedestrian improvements on the west side of the street and upgrades to traffic signals throughout the corridor.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	499,490	5,054,400						5,054,400	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$499,490**	**$5,054,400**						**$5,054,400**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	499,490	754,400						754,400	
(93) DIF									
(94) Federal Grant		4,300,000						4,300,000	
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$499,490**	**$5,054,400**						**$5,054,400**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	5,000
Capital	-
Other	-
Total Impact	5,000

Federal funding: $1.2M Congestion Mitigation and Air Quality (CMAQ); $3.1M Regional Surface Transportation/Surface Transportation Block Grant Program. Unappropriation of 92 and increased appropriations of 94 to correct funding source.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Citywide Signal Hardware Upgrades | **Project Number** 1314

Estimated Start Date February 2023 | **Lead Department** Public Works

Estimated Completion Date June 2026 | **Project Manager** Santiago Carrillo

Scope Improve signal hardware at 38 intersections throughtout the City.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	577,040								
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$577,040**								

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	22,800								
(92) Streets and Roads	517,940								
(93) DIF									
(94) Federal Grant									
(95) SRF	36,300								
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$577,040**								

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

State funds are State Highway Safety Improvement Program Funds. Close project and unallocate to respective funds.

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Roadway Safety Signing Audit and Upgrades **Project Number** 1315

Estimated Start Date February 2023 **Lead Department** Public Works

Estimated Completion Date October 2026 **Project Manager** Santiago Carrillo

Scope Will evaluate roadway signing on critical corridors in the City for safety and generate the necessary information and prioritzation to proceed with signage replacement and installation.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	355,420	1,481,460						1,481,460	
65502	Design/ Engineering									
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense									
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$355,420**	**$1,481,460**						**$1,481,460**	

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act									
(92)	Streets and Roads	30,320								
(93)	DIF									
(94)	Federal Grant									
(95)	SRF	325,100	1,481,460						1,481,460	
(96)	CDBG									
(97)	Water									
(98)	Wastewater									
	Other									
	Annual Funding Total	**$355,420**	**$1,481,460**						**$1,481,460**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

State funds are State Highway Safety Improvement Program Funds. Unappropriate current 92 funds and increase appropriations 95 funds to reflect state funding.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Pedestrian Safety Crosswalk Upgrades **Project Number** 1316

Estimated Start Date February 2023 **Lead Department** Public Works

Estimated Completion Date June 2026 **Project Manager** Jasmine Solano

Scope Crosswalk improvements at 15 unsignalized intersections in the City.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	200,652								
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$200,652**								

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	133,752								
(93) DIF									
(94) Federal Grant									
(95) SRF	66,900								
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$200,652**								

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

State funds are State Highway Safety Improvement Program Funds.Close project and unallocate to respective funds.

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name SHS Signal Hardware Upgrades **Project Number** 1317

Estimated Start Date February 2023 **Lead Department** Public Works

Estimated Completion Date June 2026 **Project Manager** Santiago Carrillo

Scope Improve signal hardware at 17 State Highway signalized intersections in the City.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	519,640								
65502	Design/ Engineering									
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense									
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$519,640**								

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act									
(92)	Streets and Roads	482,540								
(93)	DIF									
(94)	Federal Grant									
(95)	SRF	37,100								
(96)	CDBG									
(97)	Water									
(98)	Wastewater									
	Other									
	Annual Funding Total	**$519,640**								

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

State funds are State Highway Safety Improvement Program Funds. Close project and unallocate to respective funds.

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name EV Charging Stations | **Project Number** 1319

Estimated Start Date January 2023 | **Lead Department** Public Works

Estimated Completion Date June 2027 | **Project Manager** Josh Wolffe

Scope Installation of four (4) electric vehicle charging stations at the Senior Center and Gauche Aquatic Park (GAP).

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction			258,000					258,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total			**$258,000**					**$258,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads			67,000					67,000	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other			191,000					191,000	
Annual Funding Total			**$258,000**					**$258,000**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	Other funds are FRAQMD grant funds.
Other	-	
Total Impact	-	

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Yuba-Sutter Regional Safety Action Plan **Project Number** 1322

Estimated Start Date July 2023 **Lead Department** Public Works

Estimated Completion Date August 2026 **Project Manager** Josh Wolffe

Scope Develop a safety action plan to indentify projects and strategies to improve transportation safety throughout the Yuba-Sutter region. The development of the plan is being led by the County of Yuba and coordinated with other local agencies in the region. The CIP budget reflects the City's share of match requirements for 2022 Safe Streets 4 All grant funds awarded for the plan.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	60,300								
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$60,300**								

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	60,300								
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$60,300**								

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	Close project and unalloate to respective funds.
Other	-	
Total Impact	-	

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Stabler Ln - Pease Rd Intersection Improvement **Project Number** 1323

Estimated Start Date January 2024 **Lead Department** Public Works

Estimated Completion Date December 2026 **Project Manager** Josh Wolffe

Scope Evaluate and implement various safety improvements at the intersection of Stabler Lane and Pease Road.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		60,000						60,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$60,000**						**$60,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads		60,000						60,000	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$60,000**						**$60,000**	

Annual Impact on Operating Budget

Personnel	-	
Supplies	-	
Services	-	
Capital	-	Delete project and unallocate to respective funds.
Other	-	
Total Impact	-	

☐ **Project Complete** ☑ **Project Deleted** ☐ **Future Project**

Streets

Project Name Active Transportation Plan | **Project Number** 1338

Estimated Start Date March 2024 | **Lead Department** Public Works

Estimated Completion Date April 2026 | **Project Manager** Jasmine Solano

Scope Development of an Active Transportation Plan to identify needs and improve mobility for bicyclists, pedestrians, disabled individuals, and for the public transit system.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	385,695								
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$385,695**								

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	60,000								
(92) Streets and Roads	50,345								
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG	275,350								
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$385,695**								

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

State funds are from the Caltrans Sustainable Transportation Planning Grant program. Close project and unallocate to appropriate funds.

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Shasta and Alturas Bus Stop Improvements | **Project Number** 1339

Estimated Start Date July 2024 | **Lead Department** Public Works

Estimated Completion Date June 2026 | **Project Manager** Santiago Carrillo

Scope Removal and replacement of existing failed roadway adjacent to the Shasta & Alturas intersection/bus stop.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	182,043								
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$182,043**								

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	82,043								
(93) DIF									
(94) Federal Grant									
(95) SRF	100,000								
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$182,043**								

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

State funding is reimbursement from Yuba-Sutter Transit. Close project and unallocate to respective funds.

☑ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Sidewalk Inspection and Repair

Project Number 1340

Estimated Start Date July 2024

Lead Department Public Works

Estimated Completion Date Ongoing

Project Manager Josh Wolffe

Scope This project will fund ongoing inspection and inventory of sidewalks, and sidewalk non-ADA-compliance repairs throughout the City.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	35,898	290,000						290,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$35,898**	**$290,000**						**$290,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act	35,898	290,000						290,000	
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$35,898**	**$290,000**						**$290,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Garden Highway Improvements | **Project Number** 1341

Estimated Start Date July 2024 | **Lead Department** Public Works

Estimated Completion Date December 2027 | **Project Manager** Josh Wolffe

Scope Major rehabilitation of Garden Highway, between Bogue Road and Lincoln Road. Work will also include striping, ADA ramp improvements, and traffic signal upgrades.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	35,000	969,000	3,903,000					4,872,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$35,000**	**$969,000**	**$3,903,000**					**$4,872,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	35,000	540,000						540,000	
(93) DIF									
(94) Federal Grant									
(95) SRF		429,000	3,903,000					4,332,000	
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$35,000**	**$969,000**	**$3,903,000**					**$4,872,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

State funds are from SACOG-administered Surface Transportation Improvement Program (STIP)

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Tharp Road Improvements | **Project Number** 1342

Estimated Start Date July 2024 | **Lead Department** Public Works

Estimated Completion Date December 2026 | **Project Manager** Josh Wolffe

Scope Tharp Rd, north of State Route 20. Various improvements to reduce congestion and improve vehicle safety. Work will be phased. Phase 1 will include new striping and signage to help with traffic flow. Phase 2 will include relocating the center median easterly to allow for a second southbound through lane.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		25,000						25,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$25,000**						**$25,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads		25,000						25,000	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total		**$25,000**						**$25,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Delete Project, unallocate to respective funds.

Projects

Striping and Signage Improvements (Current)
Median relocation (FY 2026-27)

☐ **Project Complete** ☑ **Project Deleted** ☐ **Future Project**

Streets

Project Name Bird St. and Market St. Safety Improvements | **Project Number** 1343

Estimated Start Date July 2024 | **Lead Department** Public Works

Estimated Completion Date June 2027 | **Project Manager** Santiago Carrillo

Scope Pedestrian improvements at the intersection of Market St and Bird St. Project will install bulbouts, striping improvements, and a High-Intensity Activated Crosswalk (HAWK) beacon system.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	55,000	56,500	230,500					287,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$55,000**	**$56,500**	**$230,500**					**$287,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	55,000	15,500	23,050					38,550	
(93) DIF									
(94) Federal Grant									
(95) SRF		41,000	207,450					248,450	
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$55,000**	**$56,500**	**$230,500**					**$287,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Current State funds are FRAQMD's Blue Sky Grant. FY 2026-27 State funds are Highway Safety Improvement Program (HSIP) Cycle 12 funds.

Projects

Phase 1 - Bulbouts and Signal Infrastructure (Current)
Phase 2 - HAWK Beacons & Push Buttons (FY 2026-27)

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name El Margarita and SR-20 Safety Improvements **Project Number** 1344

Estimated Start Date 07/01/2024 **Lead Department** Public Works

Estimated Completion Date 06/30/2027 **Project Manager** Kevin Bradford

Scope Safety analysis and improvements to the intersection of El Margarita Road and eastbound State Route 20.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	20,000	40,000	150,000					190,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$20,000**	**$40,000**	**$150,000**					**$190,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	20,000	40,000						40,000	
(93) DIF			150,000					150,000	
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$20,000**	**$40,000**	**$150,000**					**$190,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Bogue Road - State Route 99 Intersection Improvements **Project Number** 1345

Estimated Start Date July 2024 **Lead Department** Public Works

Estimated Completion Date December 2028 **Project Manager** Kevin Bradford

Scope Construction of dual, 500-foot long southbound left-turn lanes on State Route 99 at Bogue Road, a dedicated right-turn lane on westbound Bogue Road at State Route 99, and related traffic signal modifications.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	10,000	670,000						670,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$10,000**	**$670,000**						**$670,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF	10,000	670,000						670,000	
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$10,000**	**$670,000**						**$670,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Levee Crossing Inspections **Project Number** 1346

Estimated Start Date Ongoing **Lead Department** Public Works

Estimated Completion Date Ongoing **Project Manager** Nick Menezes

Scope Provides funding to test and inspect all City pipeline crossings of the Feather River West Levee every 5 years in accordance with US Army Corps of Engineers requirements for maintaining levee flood protection certification.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		375,000					468,750	843,750	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$375,000**					**$468,750**	**$843,750**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads		161,000					201,250	362,250	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water		172,000					215,000	387,000	
(98) Wastewater		42,000					52,500	94,500	
Other									
Annual Funding Total		**$375,000**					**$468,750**	**$843,750**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Projects

FY 26/27 Prep raw water lines for testing/inspection
FY 26/27 Test/inspect all storm drain, raw water, and wastewater crossings
FY 30/31 Test/inspect all storm drain, raw water, and wastewater crossings

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Streets

Project Name Electric Vehicle Infrastructue Plan **Project Number** 1357

Estimated Start Date August 2025 **Lead Department** Public Works

Estimated Completion Date June 2027 **Project Manager** William Jow

Scope To develop an Electric Vehicle Infrastructure Plan (EVIP) in order to help reduce emissions, boost economic growth, and ensure widespread access to reliable charging. Plan also assesses needs for modernizaiton of City's fleet and Fleet Maintenance Division.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	20,000		305,100					305,100	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$20,000**		**$305,100**					**$305,100**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads	20,000		35,000					35,000	
(93) DIF									
(94) Federal Grant									
(95) SRF			270,100					270,100	
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$20,000**		**$305,100**					**$305,100**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%

State funds are from Caltrans Sustainable Transporation Planning Grant Program (STPGP)

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

City of Yuba City
Summary of Capital Improvement Program Projects
Current Water Projects

Account	Project Name	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
0005	Tierra Buena Consolidation System	300,000	300,000					600,000
1092	Water Line Ext Proj & Distribution Piping Enhanc	831,000	500,000	500,000	500,000	500,000		2,831,000
1093	Replacement and Major Maintenance of Water Li	1,748,000	1,500,000	1,600,000	1,700,000	1,800,000	1,900,000	10,248,000
1094	Replace Water Service or Water Meter	133,000	500,000	500,000	500,000	500,000	500,000	2,633,000
1096	Water Storage Rehabilitation	1,224,000	600,000	750,000	5,500,000			8,074,000
1098	Water Capitalization Fund	775,000	750,000	750,000	750,000	750,000	750,000	4,525,000
1145	Groundwater Well Abandonments	534,000	200,000	200,000	100,000	200,000	200,000	1,434,000
1224	WTP Electrical and Instrumentation Improvement	500,000	500,000	500,000	500,000	500,000	500,000	3,000,000
1227	Recurring WTP & Satellite Facility Maintenance	847,000	500,000	500,000	500,000	500,000	500,000	3,347,000
1248	Storm Damage Repairs to Low Lift Facility & Acc	1,984,000						1,984,000
1257	SCADA Master Plan	274,000						274,000
1289	Membrane Replacement	649,000		100,000	100,000	100,000	100,000	1,049,000
1320	Aquifer Storage Recovery System	6,085,000						6,085,000
1325	WTP Basin Improvements	1,050,000		500,000		6,662,000		8,212,000
1330	Urban Community Drought Relief Program	2,548,483						2,548,483
1347	Water Planning	254,000	200,000	100,000	100,000	100,000	350,000	1,104,000
1348	Utility Billing System Conversion	800,000						800,000
1352	Harter & Sanborn Booster Pump	110,000						110,000
1355	Wildewood East Subdivision Distribution	18,000	5,600,000					5,618,000
		$20,664,483	$11,150,000	$6,000,000	$10,250,000	$11,612,000	$4,800,000	$64,476,483

Sources of Funds	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
General							
Transportation Development Act							
Streets and Roads	45,000						45,000
DIF							
Federal Grant	46,000						46,000
SRF	4,769,483	5,600,000	1,250,000	5,500,000	6,662,000		23,781,483
CDBG							
Water	14,994,000	5,250,000	4,750,000	4,750,000	4,950,000	4,800,000	39,494,000
Wastewater	510,000						510,000
Other	300,000	300,000					600,000
	$20,664,483	$11,150,000	$6,000,000	$10,250,000	$11,612,000	$4,800,000	$64,476,483

Water

Project Name Tierra Buena Consolidation System | **Project Number** 5

Estimated Start Date January 2026 | **Lead Department** Utilities

Estimated Completion Date December 2026 | **Project Manager** Phil Marler

Scope Consolidation of Tierra Buena-area residential and commercial properties into the Yuba City water system. Project includes planning, design, and construction costs. Project is funded by state grant funding for 300k.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		300,000	300,000					600,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$300,000**	**$300,000**					**$600,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater									
Other		300,000	300,000					600,000	
Annual Funding Total		**$300,000**	**$300,000**					**$600,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	0.00%
State Grant Funding	

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Water Line Ext Proj & Distribution Piping Enhancement **Project Number** 1092

Estimated Start Date Ongoing **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Extension of water mains for new customers and improvement of existing water mains, as needed. Water mains for new customers are financed through development connection fee revenue.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	3,699,000	831,000	500,000	500,000	500,000	500,000		2,831,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$831,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**		**$2,831,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant	1,776,000								
(95) SRF	394,000								
(96) CDBG									
(97) Water	1,529,000	831,000	500,000	500,000	500,000	500,000		2,831,000	
(98) Wastewater									
Other									
Annual Funding Total	**$3,699,000**	**$831,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**		**$2,831,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	25.00%
New Customers	75.00%
Bonds/Grants	0.00%

Projects

Tuly Parkway

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Replacement and Major Maintenance of Water Lines **Project Number** 1093

Estimated Start Date Ongoing **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Ongoing replacement of water distribution lines which are aged, undersized, damaged, or otherwise obsolete. Funds are often used for upgrading mains and services in conjunction with street reconstruction or other adjacent construction projects.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,666,000	1,748,000	1,500,000	1,600,000	1,700,000	1,800,000	1,900,000	10,248,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$1,748,000**	**$1,500,000**	**$1,600,000**	**$1,700,000**	**$1,800,000**	**$1,900,000**	**$10,248,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant	62,000								
(95) SRF	194,000	10,000						10,000	
(96) CDBG									
(97) Water	2,410,000	1,738,000	1,500,000	1,600,000	1,700,000	1,800,000	1,900,000	10,238,000	
(98) Wastewater									
Other									
Annual Funding Total	**$2,666,000**	**$1,748,000**	**$1,500,000**	**$1,600,000**	**$1,700,000**	**$1,800,000**	**$1,900,000**	**$10,248,000**	

Annual Impact on Operating Budget

Personnel	(3,000)
Supplies	-
Services	-
Capital	-
Other	(2,000)
Total Impact	(5,000)

Funding

Existing Customers	75.00%
New Customers	25.00%
Bonds/Grants	0.00%

Projects

Downtown Water Line Replacements
Spiva Avenue (State IRWM Funding)
Walnut Street

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Replace Water Service or Water Meter | **Project Number** 1094

Estimated Start Date Ongoing | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Replacement and maintenance of water service meters and associated equipment.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	8,153,000	133,000	500,000	500,000	500,000	500,000	500,000	2,633,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$8,153,000**	**$133,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$2,633,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF	6,392,000								
(96) CDBG									
(97) Water	1,761,000	133,000	500,000	500,000	500,000	500,000	500,000	2,633,000	
(98) Wastewater									
Other									
Annual Funding Total	**$8,153,000**	**$133,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$2,633,000**	

Annual Impact on Operating Budget

Personnel	(25,000)
Supplies	-
Services	-
Capital	-
Other	(15,000)
Total Impact	(40,000)

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Water Storage Rehabilitation | **Project Number** 1096

Estimated Start Date July 2007 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Recoating and other necessary improvements or restoration for the reservoirs located at Harter, Rowe, Garden, Sanborn, and Sam Brannan. The City intends to pursue SRF funding for the rehabilitation of Rowe and Sam Brannan tanks in Fiscal Year 28/29

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,765,000	1,224,000	600,000	750,000	5,500,000			8,074,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,765,000**	**$1,224,000**	**$600,000**	**$750,000**	**$5,500,000**			**$8,074,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF				750,000	5,500,000			6,250,000	
(96) CDBG									
(97) Water	2,765,000	1,224,000	600,000					1,824,000	
(98) Wastewater									
Other									
Annual Funding Total	**$2,765,000**	**$1,224,000**	**$600,000**	**$750,000**	**$5,500,000**			**$8,074,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Water Capitalization Fund | **Project Number** 1098

Estimated Start Date March 2023 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Funding for rehabilitation or expansion of existing capital utility assets, including Water Treatment Plant and delivery system assets.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		775,000	750,000	750,000	750,000	750,000	750,000	4,525,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$775,000**	**$750,000**	**$750,000**	**$750,000**	**$750,000**	**$750,000**	**$4,525,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water		775,000	750,000	750,000	750,000	750,000	750,000	4,525,000	
(98) Wastewater									
Other									
Annual Funding Total		**$775,000**	**$750,000**	**$750,000**	**$750,000**	**$750,000**	**$750,000**	**$4,525,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Groundwater Well Abandonments **Project Number** 1145

Estimated Start Date July 2012 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Abandonment of former groundwater well sites. Costs may be offset by future sales of project properties for residential use.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	337,000	534,000	200,000	200,000	100,000	200,000	200,000	1,434,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$337,000**	**$534,000**	**$200,000**	**$200,000**	**$100,000**	**$200,000**	**$200,000**	**$1,434,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	337,000	534,000	200,000	200,000	100,000	200,000	200,000	1,434,000	
(98) Wastewater									
Other									
Annual Funding Total	**$337,000**	**$534,000**	**$200,000**	**$200,000**	**$100,000**	**$200,000**	**$200,000**	**$1,434,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name WTP Electrical and Instrumentation Improvement | **Project Number** 1224

Estimated Start Date July 2016 | **Lead Department** Utilities

Estimated Completion Date December 2025 | **Project Manager** Phil Marler

Scope Replacement of the electrical and instrumentation control systems and equipment upgrades at the Water Treatment Plant and offsite facilities.

Project Cost		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501	Construction	113,000	500,000	500,000	500,000	500,000	500,000	500,000	3,000,000	
65502	Design/ Engineering									
65503	Const/Admin Cost									
65504	Contingency									
65514	Professional Expense									
65517	Prop./ ROW Acquistion									
65518	Equipment/ Furnishing									
	Annual Project Total	**$113,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$3,000,000**	

Sources		Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90)	General									
(91)	Trans. Devel. Act									
(92)	Streets and Roads									
(93)	DIF									
(94)	Federal Grant									
(95)	SRF									
(96)	CDBG									
(97)	Water	113,000	500,000	500,000	500,000	500,000	500,000	500,000	3,000,000	
(98)	Wastewater									
	Other									
	Annual Funding Total	**$113,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$3,000,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	(10,000)
Capital	-
Other	(5,000)
Total Impact	(15,000)

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Recurring WTP & Satellite Facility Maintenance **Project Number** 1227

Estimated Start Date July 2016 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Ongoing program which provides funding for recurring improvements to the Water Treatment Plant, water storage sites, and other offsite facilities.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,224,000	847,000	500,000	500,000	500,000	500,000	500,000	3,347,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,224,000**	**$847,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$3,347,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	2,224,000	847,000	500,000	500,000	500,000	500,000	500,000	3,347,000	
(98) Wastewater									
Other									
Annual Funding Total	**$2,224,000**	**$847,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$3,347,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

Projects

Concrete Assessment
Conventional Filter & Air Blower
Membrane System Repairs/Upgrades

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Storm Damage Repairs to Low Lift Facility & Access Rd **Project Number** 1248

Estimated Start Date July 2017 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Repairs to the Low Lift Access Water Intake Facility and access road due to the 2017 high water event. FEMA/CalOES approval required to start work and reimbursement is anticipated after construction.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	166,000	1,984,000						1,984,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$166,000**	**$1,984,000**						**$1,984,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	166,000	1,984,000						1,984,000	
(98) Wastewater									
Other									
Annual Funding Total	**$166,000**	**$1,984,000**						**$1,984,000**	

Annual Impact on Operating Budget

Personnel	(5,000)
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	(5,000)

Funding

Existing Customers	6.25%
New Customers	0.00%
Bonds/Grants	0.00%

*It is anticipated that 93.75% of cost will be funded by FEMA and OES.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name SCADA Master Plan **Project Number** 1257

Estimated Start Date September 2018 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Development of a Citywide Master Plan for the Supervisory Control and Data Acquisition System (SCADA)/Automatic Control System for the water, wastewater, and stormwater systems.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		274,000						274,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$274,000**						**$274,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads		45,000						45,000	
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water		119,000						119,000	
(98) Wastewater		110,000						110,000	
Other									
Annual Funding Total		**$274,000**						**$274,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Membrane Replacement | **Project Number** 1289

Estimated Start Date January 2022 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Replacement of membranes after service life of 8 to 10 years.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	751,000	649,000		100,000	100,000	100,000	100,000	1,049,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$751,000**	**$649,000**		**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$1,049,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	751,000	649,000		100,000	100,000	100,000	100,000	1,049,000	
(98) Wastewater									
Other									
Annual Funding Total	**$751,000**	**$649,000**		**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$1,049,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Aquifer Storage Recovery System | **Project Number** 1320

Estimated Start Date July 2023 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Construction of an Aquifer Storage Recovery (ASR) system to store treated surface water. Grant received in Fiscal Year 21/22 from the Bureau of Reclamation.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	3,863,000	6,085,000						6,085,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$3,863,000**	**$6,085,000**						**$6,085,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF	3,863,000	2,211,000						2,211,000	
(96) CDBG									
(97) Water		3,874,000						3,874,000	
(98) Wastewater									
Other									
Annual Funding Total	**$3,863,000**	**$6,085,000**						**$6,085,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name WTP Basin Improvements | **Project Number** 1325

Estimated Start Date October 2023 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Improvements to the sedimentation basin and associated structures at the Water Treatment Plant. The City intends to pursue an SRF loan or other alternative funding for this project.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		1,050,000		500,000		6,662,000		8,212,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$1,050,000**		**$500,000**		**$6,662,000**		**$8,212,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF				500,000		6,662,000		7,162,000	
(96) CDBG									
(97) Water		1,050,000						1,050,000	
(98) Wastewater									
Other									
Annual Funding Total		**$1,050,000**		**$500,000**		**$6,662,000**		**$8,212,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Urban Community Drought Relief Program **Project Number** 1330

Estimated Start Date January 2024 **Lead Department** Utilities

Estimated Completion Date June 2026 **Project Manager** Phil Marler

Scope Replacement of non-functional turf at designated City-owned properties and a rebate program for replacement of non-functional turf by commercial and industrial customers provided by a grant from the Department of Water Resources

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	227,000	2,548,483						2,548,483	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$227,000**	**$2,548,483**						**$2,548,483**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF	227,000	2,548,483						2,548,483	
(96) CDBG									
(97) Water									
(98) Wastewater									
Other									
Annual Funding Total	**$227,000**	**$2,548,483**						**$2,548,483**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Water Planning | **Project Number** 1347

Estimated Start Date July 2025 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Development of recurring long-range planning documents, including the Water Master Plan and Urban Water Management Plan.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	96,000	254,000	200,000	100,000	100,000	100,000	350,000	1,104,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$96,000**	**$254,000**	**$200,000**	**$100,000**	**$100,000**	**$100,000**	**$350,000**	**$1,104,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water	96,000	254,000	200,000	100,000	100,000	100,000	350,000	1,104,000	
(98) Wastewater									
Other									
Annual Funding Total	**$96,000**	**$254,000**	**$200,000**	**$100,000**	**$100,000**	**$100,000**	**$350,000**	**$1,104,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	75.00%
New Customers	25.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Utility Billing System Conversion | **Project Number** 1348

Estimated Start Date July 2027 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Replacement of the City's water and wastewater utility billing software.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		800,000						800,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$800,000**						**$800,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water		400,000						400,000	
(98) Wastewater		400,000						400,000	
Other									
Annual Funding Total		**$800,000**						**$800,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	75.00%
New Customers	25.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Harter & Sanborn Booster Pump **Project Number** 1352

Estimated Start Date July 2025 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Upgrade the Harter and Sanborn Booster Pump Stations by replacing softstart equipment with variable Frequency Drives (VFDs) making the booster pump stations more robust and efficient with distributing potable water.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		110,000						110,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$110,000**						**$110,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant		46,000						46,000	
(95) SRF									
(96) CDBG									
(97) Water		64,000						64,000	
(98) Wastewater									
Other									
Annual Funding Total		**$110,000**						**$110,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

Funded partly through BOR WaterSmart Small Efficiency Grant.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Water

Project Name Wildewood East Subdivision Distribution **Project Number** 1355

Estimated Start Date September 2025 **Lead Department** Utilities

Estimated Completion Date December 2026 **Project Manager** Phil Marler

Scope Project to construct a new water distribution system for supplying City water to the Wildewood East subdivision. State grant funding anticipated for construction of the project.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,000	18,000	5,600,000					5,618,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$2,000**	**$18,000**	**$5,600,000**					**$5,618,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF			5,600,000					5,600,000	
(96) CDBG									
(97) Water	2,000	18,000						18,000	
(98) Wastewater									
Other									
Annual Funding Total	**$2,000**	**$18,000**	**$5,600,000**					**$5,618,000**	

Annual Impact on Operating Budget

Personnel	-		
Supplies	-	New Customers	100.00%
Services	-	Bonds/Grants	0.00%
Capital	-		
Other	-		
Total Impact	-		

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

City of Yuba City
Summary of Capital Improvement Program Projects
Current Wastewater Projects

Account	Project Name	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
1103	Recurring Plant Projects	416,000	500,000	750,000	750,000	750,000	750,000	3,916,000
1104	Recurring Collection or Rehabilitation System Pro	1,389,000	500,000	2,200,000	2,300,000	2,400,000	2,500,000	11,289,000
1105	Lift Station Improvements	295,000	250,000	500,000	500,000	500,000	500,000	2,545,000
1116	Secondary Clarifier Improvements	1,928,000	950,000		500,000	500,000	500,000	4,378,000
1155	Stonegate Treatment Works Demolition	472,000						472,000
1156	New Outfall and River Levee Crossing Replacem	403,000	11,790,000	27,780,000	23,230,000			63,203,000
1179	Oxygen Generation System Improvements	359,000						359,000
1196	Rehabilitation of the West Chlorine Contact Basin	1,893,000						1,893,000
1219	Secondary Clarifier No.4	122,000				500,000		622,000
1229	Wastewater Capitalization Fund	3,354,000				1,000,000	1,000,000	5,354,000
1250	Recurring Pond and Road Maintenance	500,000		100,000	100,000	100,000	100,000	900,000
1277	Harter-Bridge Sewer Trunk Connection	328,000						328,000
1290	Third Anaerobic Digester	1,177,000					750,000	1,927,000
1303	Regional Septic System Conversion	100,000						100,000
1304	Temporary Discharge Point 003	456,000						456,000
1328	Recycled Water Preparation	500,000						500,000
1329	Septage Hauler Station	246,000	700,000					946,000
1349	WWTF Reactor Improvements	350,000	150,000			700,000	750,000	1,950,000
1350	Systemwide Odor Control	250,000				100,000	100,000	450,000
1351	Wastewater Planning	95,000		100,000	100,000	100,000	100,000	495,000
		$14,633,000	$14,840,000	$31,430,000	$27,480,000	$6,650,000	$7,050,000	$102,083,000

Sources of Funds	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding
General							
Transportation Development Act							
Streets and Roads							
DIF							
Federal Grant	250,000						250,000
SRF		11,790,000	27,780,000	10,430,000			50,000,000
CDBG	35,000						35,000
Water							
Wastewater	14,348,000	3,050,000	3,650,000	4,250,000	6,650,000	7,050,000	38,998,000
Other				12,800,000			12,800,000
	$14,633,000	$14,840,000	$31,430,000	$27,480,000	$6,650,000	$7,050,000	$102,083,000

Wastewater

Project Name Recurring Plant Projects | **Project Number** 1103

Estimated Start Date Ongoing | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Ongoing program which provides funding for recurring improvements to the Wastewater Treatment Facility and offsite facilities.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	2,591,000	416,000	500,000	750,000	750,000	750,000	750,000	3,916,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$416,000**	**$500,000**	**$750,000**	**$750,000**	**$750,000**	**$750,000**	**$3,916,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	2,591,000	416,000	500,000	750,000	750,000	750,000	750,000	3,916,000	
Other									
Annual Funding Total	**$2,591,000**	**$416,000**	**$500,000**	**$750,000**	**$750,000**	**$750,000**	**$750,000**	**$3,916,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

Projects

Washer/Rag Remover
Grit Classifier
Chlorine Scrubber

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Recurring Collection or Rehabilitation System Projects **Project Number** 1104

Estimated Start Date Ongoing **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Ongoing program which provides funding for recurring improvements to the wastewater collections system. Rehabilitation of the collection system is necessary to reduce sanitary sewer overflows per State Water Board's waste discharge regulations.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	4,231,000	1,389,000	500,000	2,200,000	2,300,000	2,400,000	2,500,000	11,289,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$4,231,000**	**$1,389,000**	**$500,000**	**$2,200,000**	**$2,300,000**	**$2,400,000**	**$2,500,000**	**$11,289,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG		35,000						35,000	
(97) Water									
(98) Wastewater	4,231,000	1,354,000	500,000	2,200,000	2,300,000	2,400,000	2,500,000	11,254,000	
Other									
Annual Funding Total	**$4,231,000**	**$1,389,000**	**$500,000**	**$2,200,000**	**$2,300,000**	**$2,400,000**	**$2,500,000**	**$11,289,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

Projects

Market St/Lift Station 2
Rickey Dr

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Lift Station Improvements | **Project Number** 1105

Estimated Start Date Ongoing | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Ongoing program which provides funding for recurring improvements to existing lift stations and related pumping equipment, as well as odor control measures, new instrumentation system (SCADA), and equipment upgrades.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	1,672,000	295,000	250,000	500,000	500,000	500,000	500,000	2,545,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$1,672,000**	**$295,000**	**$250,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$2,545,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	1,672,000	295,000	250,000	500,000	500,000	500,000	500,000	2,545,000	
Other									
Annual Funding Total	**$1,672,000**	**$295,000**	**$250,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$2,545,000**	

Annual Impact on Operating Budget

Personnel	(5,000)
Supplies	-
Services	-
Capital	-
Other	(5,000)
Total Impact	(10,000)

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Secondary Clarifier Improvements | **Project Number** 1116

Estimated Start Date January 2014 | **Lead Department** Utilities

Estimated Completion Date TBD | **Project Manager** Phil Marler

Scope Repairs and improvements to the three existing Secondary Clarifiers.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	482,000	1,928,000	950,000		500,000	500,000	500,000	4,378,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$482,000**	**$1,928,000**	**$950,000**		**$500,000**	**$500,000**	**$500,000**	**$4,378,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	482,000	1,928,000	950,000		500,000	500,000	500,000	4,378,000	
Other									
Annual Funding Total	**$482,000**	**$1,928,000**	**$950,000**		**$500,000**	**$500,000**	**$500,000**	**$4,378,000**	

Annual Impact on Operating Budget

Personnel	(5,000)
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	(5,000)

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

Contingent on future funding availability.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Stonegate Treatment Works Demolition **Project Number** 1155

Estimated Start Date July 2014 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Demolition of the obsolete STEP treatment works, evaporation pond, and other equipment located in the vicinity of Stonegate Drive.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	3,000	472,000						472,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$3,000**	**$472,000**						**$472,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	3,000	472,000						472,000	
Other									
Annual Funding Total	**$3,000**	**$472,000**						**$472,000**	

Annual Impact on Operating Budget	
Personnel	-
Supplies	-
Services	-
Capital	-
Other	(3,000)
Total Impact	(3,000)

Funding	
Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name New Outfall and River Levee Crossing Replacement **Project Number** 1156

Estimated Start Date July 2014 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Engineering design, construction, and required permitting for the Wastewater Treatment Facility's new outfall diffuser pipeline, in accordance with the City's NPDES permit. Construction will be funded by a $50 million SRF loan supplemented by grants or revenue bonds as required.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	5,780,000	403,000	11,790,000	27,780,000	23,230,000			63,203,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$5,780,000**	**$403,000**	**$11,790,000**	**$27,780,000**	**$23,230,000**			**$63,203,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF			11,790,000	27,780,000	10,430,000			50,000,000	
(96) CDBG									
(97) Water									
(98) Wastewater	5,780,000	403,000						403,000	
Other					12,800,000			12,800,000	
Annual Funding Total	**$5,780,000**	**$403,000**	**$11,790,000**	**$27,780,000**	**$23,230,000**			**$63,203,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

Additional costs to be estimated during final design.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Oxygen Generation System Improvements **Project Number** 1179

Estimated Start Date July 2014 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Replacement of the oxygen supply system with a Vacuum Pressure Swing Adsorption (VPSA) system. It is anticipated that this project will reduce maintenance and operational costs.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		359,000						359,000	
65502 Design/ Engineering	21,000								
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$21,000**	**$359,000**						**$359,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	21,000	359,000						359,000	
Other									
Annual Funding Total	**$21,000**	**$359,000**						**$359,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	50,000
Total Impact	50,000

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

Contingent on future funding availability.

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Rehabilitation of the West Chlorine Contact Basin | **Project Number** 1196

Estimated Start Date July 2014 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Rehabilitation of the existing West Chlorine Contact Basin.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	83,000	1,893,000						1,893,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$83,000**	**$1,893,000**						**$1,893,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	83,000	1,893,000						1,893,000	
Other									
Annual Funding Total	**$83,000**	**$1,893,000**						**$1,893,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Secondary Clarifier No.4 **Project Number** 1219

Estimated Start Date July 2015 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Design and construction of a fourth Secondary Clarifier for redundancy and to accommodate system growth.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		122,000				500,000		622,000	
65502 Design/ Engineering	398,000								
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$398,000**	**$122,000**				**$500,000**		**$622,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	398,000	122,000				500,000		622,000	
Other									
Annual Funding Total	**$398,000**	**$122,000**				**$500,000**		**$622,000**	

Annual Impact on Operating Budget

Personnel	5,000
Supplies	-
Services	-
Capital	-
Other	10,000
Total Impact	15,000

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Wastewater Capitalization Fund **Project Number** 1229

Estimated Start Date July 2016 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope This project will provide funding for future projects benefiting the existing customers. The project will include new facilities for existing customers, as needed, and replacement and/or rehabilitation of the existing facilities.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	1,276,000	3,354,000				1,000,000	1,000,000	5,354,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$1,276,000**	**$3,354,000**				**$1,000,000**	**$1,000,000**	**$5,354,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	1,276,000	3,354,000				1,000,000	1,000,000	5,354,000	
Other									
Annual Funding Total	**$1,276,000**	**$3,354,000**				**$1,000,000**	**$1,000,000**	**$5,354,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Recurring Pond and Road Maintenance **Project Number** 1250

Estimated Start Date Ongoing **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Ongoing program which provides funding for recurring maintenance, repairs, and restoration of the percolation ponds and access roads.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	5,000	500,000		100,000	100,000	100,000	100,000	900,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$5,000**	**$500,000**		**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$900,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	5,000	500,000		100,000	100,000	100,000	100,000	900,000	
Other									
Annual Funding Total	**$5,000**	**$500,000**		**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$900,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Wastewater Treatment Facility Improvements **Project Number** 1252

Estimated Start Date July 2018 **Lead Department** Utilities

Estimated Completion Date December 2023 **Project Manager** Phil Marler

Scope Improvements project for the Wastewater Treatment Facility. These improvements include: headworks bar screen replacement, replacement of digester covers, replacement of the dewatering system, a facility-wide Electrical, Instrumentation and Control System, and other miscellaneous improvements deemed necessary. Funding is through 2018 Wastewater Revenue Bond financing.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	24,555,000	213,000						213,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$24,555,000**	**$213,000**						**$213,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	24,555,000	213,000						213,000	
Other									
Annual Funding Total	**$24,555,000**	**$213,000**						**$213,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	(20,000)
Capital	-
Other	-
Total Impact	(20,000)

Funding

Existing Customers	0.00%
New Customers	0.00%
Bonds/Grants	100.00%
Maintenance Savings	

☑ **Project Complete** ☑ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Harter-Bridge Sewer Trunk Connection **Project Number** 1277

Estimated Start Date July 2020 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Connect the existing 24-inch diameter gravity main in Harter Parkway to the existing 24-inch gravity main in Harding Road just south of Bridge Street. City received ARPA grant funds in Fiscal Year 21/22 for project construction.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	17,000	328,000						328,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$17,000**	**$328,000**						**$328,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	17,000	328,000						328,000	
Other									
Annual Funding Total	**$17,000**	**$328,000**						**$328,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	34.00%
New Customers	66.00%
Bonds/Grants	0.00%

Projects

Right-of-way Acquisition

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Third Anaerobic Digester | **Project Number** 1290

Estimated Start Date TBD | **Lead Department** Utilities

Estimated Completion Date TBD | **Project Manager** Phil Marler

Scope Design and build a third anaerobic digester and associated improvements to meet existing and near-term capacity, as identified in the 2019 Wastewater Master Plan.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	73,000	1,177,000					750,000	1,927,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$73,000**	**$1,177,000**					**$750,000**	**$1,927,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	73,000	1,177,000					750,000	1,927,000	
Other									
Annual Funding Total	**$73,000**	**$1,177,000**					**$750,000**	**$1,927,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

Projects

Primary Clarifier Drum

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Regional Septic System Conversion **Project Number** 1303

Estimated Start Date July 2022 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Program to convert existing septic systems to City sewer, including the City-managed Stonegate STEP system as well as private septic systems for new customers within the City and Sphere of Influence. City to pursue grant funding for this program, such as the SRF septic to sewer grant.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		100,000						100,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$100,000**						**$100,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater		100,000						100,000	
Other									
Annual Funding Total		**$100,000**						**$100,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Temporary Discharge Point 003 **Project Number** 1304

Estimated Start Date July 2022 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Construction and maintenance of a temporary wastewater discharge point (Point 003) into the Feather River per City's NPDES permit.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	194,000	456,000						456,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$194,000**	**$456,000**						**$456,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	194,000	456,000						456,000	
Other									
Annual Funding Total	**$194,000**	**$456,000**						**$456,000**	

Annual Impact on Operating Budget	
Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding	
Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Recycled Water Preparation | **Project Number** 1328

Estimated Start Date July 2023 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Advanced planning and preparation projects for conversion to tertiary wastewater treatment. Includes WWTF Water Recycling Feasibility Study, funded in part by a grant from the Bureau of Reclamation.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		500,000						500,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$500,000**						**$500,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant		250,000						250,000	
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater		250,000						250,000	
Other									
Annual Funding Total		**$500,000**						**$500,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	75.00%
New Customers	25.00%
Bonds/Grants	0.00%

Projects

WWTF Water Recycling Feasibility Study (50% BOR Grant)

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Septage Hauler Station | **Project Number** 1329

Estimated Start Date August 2023 | **Lead Department** Utilities

Estimated Completion Date TBD | **Project Manager** Phil Marler

Scope Construction of a receiving station and infrastructure for the septic hauler program, as identified in the 2019 Wastewater Master Plan.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	354,000	246,000	700,000					946,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$354,000**	**$246,000**	**$700,000**					**$946,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	354,000	246,000	700,000					946,000	
Other									
Annual Funding Total	**$354,000**	**$246,000**	**$700,000**					**$946,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%
New Customers	0.00%
Bonds/Grants	0.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name WWTF Reactor Improvements **Project Number** 1349

Estimated Start Date July 2025 **Lead Department** Utilities

Estimated Completion Date Ongoing **Project Manager** Phil Marler

Scope Rehabilitation of the wastewater treatment reactor, including electrical control and monitoring upgrades

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		350,000	150,000			700,000	750,000	1,950,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$350,000**	**$150,000**			**$700,000**	**$750,000**	**$1,950,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater		350,000	150,000			700,000	750,000	1,950,000	
Other									
Annual Funding Total		**$350,000**	**$150,000**			**$700,000**	**$750,000**	**$1,950,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Systemwide Odor Control | **Project Number** 1350

Estimated Start Date July 2024 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Multiple-approach program to address odor-control issues throughout the wastewater collection and treatment system.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction		250,000				100,000	100,000	450,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total		**$250,000**				**$100,000**	**$100,000**	**$450,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater		250,000				100,000	100,000	450,000	
Other									
Annual Funding Total		**$250,000**				**$100,000**	**$100,000**	**$450,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	100.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

Wastewater

Project Name Wastewater Planning | **Project Number** 1351

Estimated Start Date July 2025 | **Lead Department** Utilities

Estimated Completion Date Ongoing | **Project Manager** Phil Marler

Scope Development of recurring long-range planning documents, including the Wastewater Master Plan and Sewer System Management Plan.

Project Cost	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
65501 Construction	72,000	95,000		100,000	100,000	100,000	100,000	495,000	
65502 Design/ Engineering									
65503 Const/Admin Cost									
65504 Contingency									
65514 Professional Expense									
65517 Prop./ ROW Acquistion									
65518 Equipment/ Furnishing									
Annual Project Total	**$72,000**	**$95,000**		**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$495,000**	

Sources	Previous Expenditures	Current Funding	Proposed 2026-27	2027-28	2028-29	2029-30	2030-31	Projected Funding	Future
(90) General									
(91) Trans. Devel. Act									
(92) Streets and Roads									
(93) DIF									
(94) Federal Grant									
(95) SRF									
(96) CDBG									
(97) Water									
(98) Wastewater	72,000	95,000		100,000	100,000	100,000	100,000	495,000	
Other									
Annual Funding Total	**$72,000**	**$95,000**		**$100,000**	**$100,000**	**$100,000**	**$100,000**	**$495,000**	

Annual Impact on Operating Budget

Personnel	-
Supplies	-
Services	-
Capital	-
Other	-
Total Impact	-

Funding

Existing Customers	75.00%
New Customers	25.00%

☐ **Project Complete** ☐ **Project Deleted** ☐ **Future Project**

City of Yuba City
List of Capital Improvement Program Projects
General Fund with Current Funding
FY 2026 - 2027

	Fund 301 - General	Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
900067	Station 4 Plumbing Overhaul	FD			100,000	100,000
901023	City Hall Improvements	PW	*	61,518		61,518
901028	Improvements to Buildings and Grounds	PW	*	253,978		253,978
901080	General Plan Implementation and Future Update	DS		857,980	82,500	940,480
901127	Capital Repl. Prog - Gauche Aquatic Park	CS		205,113		205,113
901188	Stormwater Management Program	PW	*		43,800	43,800
901209	Union Pacific Railroad Property Acquisition	PW	*	19,539		19,539
901222	Annual Playground Replacement	CS	*	262,962	200,000	462,962
901236	Fire Station No.2 Remodel	FD		145,000		145,000
901237	Fire Station Repair and Renovation	FD		218,752	85,000	303,752
901259	Well Installations & Upgrades	CS		205,576	100,000	305,576
901280	Fire Station No.4 Training Grounds	FD	*	58,000		58,000
901283	Citywide Accela/Technology Funding	DS		65,000	40,000	105,000
901287	Senior Center Building Repairs	CS	*	80,272		80,272
901298	Town Center Fountain	CS		54,042		54,042
901300	Sam Brannan Improvements	CS		132,386		132,386
901336	Fleet Master Plan	PW	*	9,960		9,960
901337	Veterans Park Replacement	CS		20,000		20,000
	Total			$2,650,078	$651,300	$3,301,378

Note: * Multiple funding sources exist for this project. See individual project sheet for breakdown.

City of Yuba City
List of Capital Improvement Program Projects
Transportation Development Act Programs with Current Funding
FY 2026 - 2027

	Fund 305 - Transportation Development Act	Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
910002	Citywide Pavement Condition Assessment and Planning	PW			300,000	300,000
911024	Striping and Marking	PW	*	530,255	150,000	680,255
911025	Drainage Improvements	PW	*	200,000		200,000
911027	Traffic Signals	PW	*	705,854		705,854
911051	Road Rehabilitation	PW	*	1,599,520	1,000,000	2,599,520
911069	Tuly Parkway - Queens Ave Extension	PW	*	20		20
911188	Stormwater Management Program	PW	*	12,926		12,926
911209	Union Pacific Railroad Property Acquisition	PW	*	977		977
911241	Center Bore Street Light Pole Replacement Project	PW		25,000	75,000	100,000
911266	Sutter Bike Path Gap Closure	PW	*	150,000		150,000
911276	Bridge Street Reconstruction Development Phase	PW	*	23,960		23,960
911295	Bogue Road Improvements - SR 99 to Railroad Ave	PW	*	1,535,000		1,535,000
911296	Prop 1 IRWM - Gilsizer North Detention Basin Improvements	PW	*	262,080	75,000	337,080
911297	Prop 1 IRWM - Lincoln Road Trash Capture Project	PW	*	168,340	75,000	243,340
911301	Butte House Road Community Design Improvements	PW		551,510		551,510
911340	Sidewalk Inspection and Repair	PW		290,000		290,000
	Total			$6,055,442	$1,675,000	$7,730,442

Note: * Multiple funding sources exist for this project. See individual project sheet for breakdown.

City of Yuba City
List of Capital Improvement Program Projects
Streets and Roads Fund with Current Funding
FY 2026 - 2027

	Fund 303 - Streets and Roads	Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
920001	Transportation Safety Improvements	PW			100,000	100,000
920003	George Washington Pavement Rehabilitation	PW	*		104,000	104,000
921025	Drainage Improvements	PW	*	74,990	85,000	159,990
921028	Improvements to Buildings and Grounds	PW	*	19,869	60,000	79,869
921051	Road Rehabilitation	PW	*	267,184		267,184
921069	Tuly Parkway - Queens Ave Extension	PW	*	630,342		630,342
921180	Consolidated Streetlight District-Acquisition and Conversion	PW		822,961		822,961
921188	Stormwater Management Program	PW	*	34,666	35,000	69,666
921190	Pavement Management System	PW	*	5,294		5,294
921209	Union Pacific Railroad Property Acquisition	PW	*	23,442		23,442
921213	Residential Road Rehabilitation	PW		2,311,202	500,000	2,811,202
921243	Bridge Street Utility Undergrounding	PW	*	11,040	50,000	61,040
921255	Road Maintenance and Rehab. Account (RMRA)	PW		1,934,740	1,903,000	3,837,740
921257	SCADA Master Plan	UT	*	45,000		45,000
921276	Bridge Street Reconstruction Development Phase	PW	*	248,920		248,920
921295	Bogue Road Improvements - SR 99 to Railroad Ave	PW	*	5,235,000		5,235,000
921302	Walton Avenue Improvements	PW	*	754,400		754,400
921319	EV Charging Stations	PW	*		67,000	67,000
921323	Stabler Ln - Pease Rd Intersection Improvement	PW		60,000		60,000
921336	Fleet Master Plan	PW	*	150		150
921341	Garden Highway Improvements	PW	*	540,000		540,000
921342	Tharp Road Improvements	PW		25,000		25,000
921343	Bird St. and Market St. Safety Improvements	PW	*	15,500	23,050	38,550
921344	El Margarita and SR-20 Safety Improvements	PW		40,000		40,000
921346	Levee Crossing Inspections	PW	*	161,000		161,000
921357	Electric Vehicle Infrastructue Plan	PW	*		35,000	35,000
	Total			$13,260,700	$2,962,050	$16,222,750

Note: * Multiple funding sources exist for this project. See individual project sheet for breakdown.

City of Yuba City
List of Capital Improvement Program Projects
Development Impact Fee Fund with Current Funding
FY 2026 - 2027

Fund 304 - Development Impact Fees	Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
931028 Improvements to Buildings and Grounds	PW	*	26,581		26,581
931069 Tuly Parkway - Queens Ave Extension	PW	*	667,973		667,973
931243 Bridge Street Utility Undergrounding	PW	*	14,100		14,100
931295 Bogue Road Improvements - SR 99 to Railroad Ave	PW	*	503,040		503,040
931344 El Margarita and SR-20 Safety Improvements	PW			150,000	150,000
931345 Bogue Road - State Route 99 Intersection Improvements	PW	*	670,000		670,000
Total			$1,881,694	$150,000	$2,031,694

Note: * Multiple funding sources exist for this project. See individual project sheet for breakdown.

City of Yuba City
List of Capital Improvement Program Projects
Community Development Block Grant Fund with Current Funding
FY 2026 - 2027

	Fund 204 - CDBG	Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
961104	Recurring Collection or Rehabilitation System Projects	UT	*	35,000		35,000
961220	ADA Public Facilities Sidewalk Improvements	PW	*	37,161	88,000	125,161
	Total			$72,161	$88,000	$160,161

Note: * Multiple funding sources exist for this project. See individual project sheet for breakdown.

City of Yuba City
List of Capital Improvement Program Projects
Water Fund with Current Funding
FY 2026 - 2027

	Fund 517 - Water	Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
971028	Improvements to Buildings and Grounds	PW	*	16,740	65,000	81,740
971092	Water Line Ext Proj & Distribution Piping Enhancement	UT	*	831,000	500,000	1,331,000
971093	Replacement and Major Maintenance of Water Lines	UT	*	1,738,000	1,500,000	3,238,000
971094	Replace Water Service or Water Meter	UT	*	133,000	500,000	633,000
971096	Water Storage Rehabilitation	UT	*	1,224,000	600,000	1,824,000
971098	Water Capitalization Fund	UT		775,000	750,000	1,525,000
971145	Groundwater Well Abandonments	UT		534,000	200,000	734,000
971188	Stormwater Management Program	PW	*	37,213	20,000	57,213
971224	WTP Electrical and Instrumentation Improvement	UT		500,000	500,000	1,000,000
971227	Recurring WTP & Satellite Facility Maintenance	UT		847,000	500,000	1,347,000
971248	Storm Damage Repairs to Low Lift Facility & Access Rd	UT		1,984,000		1,984,000
971257	SCADA Master Plan	UT	*	119,000		119,000
971289	Membrane Replacement	UT		649,000		649,000
971295	Bogue Road Improvements - SR 99 to Railroad Ave	PW	*	1,539,000		1,539,000
971320	Aquifer Storage Recovery System	UT	*	3,874,000		3,874,000
971325	WTP Basin Improvements	UT	*	1,050,000		1,050,000
971336	Fleet Master Plan	PW	*	150		150
971346	Levee Crossing Inspections	PW	*	172,000		172,000
971347	Water Planning	UT		254,000	200,000	454,000
971348	Utility Billing System Conversion	UT	*	400,000		400,000
971352	Harter & Sanborn Booster Pump	UT	*	64,000		64,000
971355	Wildewood East Subdivision Distribution	UT	*	18,000		18,000
	Total			$16,759,103	$5,335,000	$22,094,103

Note: * Multiple funding sources exist for this project. See individual project sheet for breakdown.

City of Yuba City
List of Capital Improvement Program Projects
Wastewater Fund with Current Funding
FY 2026 - 2027

Fund 528 - Wastewater	Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
981025 Drainage Improvements	PW	*		115,000	115,000
981028 Improvements to Buildings and Grounds	PW	*	268,882	70,000	338,882
981103 Recurring Plant Projects	UT		416,000	500,000	916,000
981104 Recurring Collection or Rehabilitation System Projects	UT	*	1,354,000	500,000	1,854,000
981105 Lift Station Improvements	UT		295,000	250,000	545,000
981116 Secondary Clarifier Improvements	UT		1,928,000	950,000	2,878,000
981155 Stonegate Treatment Works Demolition	UT		472,000		472,000
981156 New Outfall and River Levee Crossing Replacement	UT	*	403,000		403,000
981179 Oxygen Generation System Improvements	UT		359,000		359,000
981188 Stormwater Management Program	PW	*	39,955	20,000	59,955
981196 Rehabilitation of the West Chlorine Contact Basin	UT		1,893,000		1,893,000
981219 Secondary Clarifier No.4	UT		122,000		122,000
981229 Wastewater Capitalization Fund	UT		3,354,000		3,354,000
981250 Recurring Pond and Road Maintenance	UT		500,000		500,000
981252 Wastewater Treatment Facility Improvements	UT		213,000		213,000
981257 SCADA Master Plan	UT	*	110,000		110,000
981277 Harter-Bridge Sewer Trunk Connection	UT		328,000		328,000
981290 Third Anaerobic Digester	UT		1,177,000		1,177,000
981303 Regional Septic System Conversion	UT		100,000		100,000
981304 Temporary Discharge Point 003	UT		456,000		456,000
981328 Recycled Water Preparation	UT	*	250,000		250,000
981329 Septage Hauler Station	UT		246,000	700,000	946,000
981336 Fleet Master Plan	PW	*	150		150
981346 Levee Crossing Inspections	PW	*	42,000		42,000
981348 Utility Billing System Conversion	UT	*	400,000		400,000
981349 WWTF Reactor Improvements	UT		350,000	150,000	500,000
981350 Systemwide Odor Control	UT		250,000		250,000
981351 Wastewater Planning	UT		95,000		95,000
Total			$15,421,987	$3,255,000	$18,676,987

Note: * Multiple funding sources exist for this project. See individual project sheet for breakdown.

City of Yuba City
List of Capital Improvement Program Projects
Other Fund with Current Funding
FY 2026 - 2027

	Fund XXX - Other Funded		Dept.	Note	Estimated Carryover Balance	Proposed 2026-2027 Approp.	Total Project Funds
975	Tierra Buena Consolidation System	13	UT		300,000	300,000	600,000
901023	City Hall Improvements	3	PW	*	212,119		212,119
971093	Replacement and Major Maintenance of Water Lines	11	UT	*	10,000		10,000
981156	New Outfall and River Levee Crossing Replacement	7	UT	*		11,790,00	11,790,00
921266	Sutter Bike Path Gap Closure	5	PW	*	2,137,000		2,137,000
921296	Prop 1 IRWM - Gilsizer North Detention Basin Improvements	7	PW	*	519,400		519,400
921297	Prop 1 IRWM - Lincoln Road Trash Capture Project	7	PW	*	303,680		303,680
921302	Walton Avenue Improvements	9	PW	*	4,300,000		4,300,000
901313	ERP/HR/Payroll/Utility Billing Upgrade	3	IT		936,056		936,056
921315	Roadway Safety Signing Audit and Upgrades	1	PW		1,481,460		1,481,460
921319	EV Charging Stations	8	PW	*		191,000	191,000
971320	Aquifer Storage Recovery System	4	UT	*	2,211,000		2,211,000
981328	Recycled Water Preparation	4	UT	*	250,000		250,000
951330	Urban Community Drought Relief Program	6	UT		2,548,483		2,548,483
921341	Garden Highway Improvements	6	PW	*	429,000	3,903,000	4,332,000
921343	Bird St. and Market St. Safety Improvements	8	PW	*	41,000	207,450	248,450
971352	Harter & Sanborn Booster Pump	4	UT	*	46,000		46,000
941353	RCN - SR20 Bike/Pedestrian Crossing	2	DS		250,000		250,000
941354	RCN - Central City Specific Plan and Design Updates	10	DS		350,000		350,000
971355	Wildewood East Subdivision Distribution	13	UT	*		5,600,000	5,600,000
901356	CAD System Radio Upgrades	12	PD		1,000,000		1,000,000
921357	Electric Vehicle Infrastructue Plan	14	PW	*		270,100	270,100
	Total				$17,325,198	$22,261,550	$39,586,748

Notes:

1 Funded by State Highway Improvement Program
2 Funded partly through Sacramento Area Council of Governments grant (SACOG)
3 Funded through H.R. 1319 American Rescue Plan
4 Funded partly through the Bureau of Reclamation
5 Funded through the ATP and RSTP Grants
6 Funded partly through the CalRecycle Grant
7 Funded partly through the State Revolving Fund
8 Funded through FRAQMD's Blue Sky Grant
9 Funded through LEAP Grant
10 Funding through State CEC Grant
11 Funded through State IRWM Funds
12 Funded partly through COPS Grant
13 Funded through State Grant Funding
14 Funded through Caltrans Sustainable Transportation Grant

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Human Resources Department
Presentation By: Gina Rowland, Human Resources Director

Summary

Subject: Approve the City's Amended Salary Schedule

Recommendation:

Adopt a Resolution taking the following actions effective July 11, 2026:

A. Amending the Salary Schedule to:

1. Adjust the salary for City Manager from $280,000 to $280,010 annually to address a rounding issue in the City's new HRIS/Payroll system.
2. Abolish the titles of Police Records Clerk – Lead and Administrative Manager.
3. Change the title for Parks and Grounds Superintendent to Park Maintenance Superintendent.
4. Adjust the salary for Police Services Analyst from $5,190 - $6,308/monthly to $5,854 - $7,116/monthly.
5. Add the following new salary ranges:

    a. Deputy City Manager - $11,310 to $13,748/monthly
    b. GIS Analyst - $7,150 to $8,689/monthly
    c. Human Resources Analyst I - $6,350 to $7,718/monthly
    d. Human Resources Analyst II - $6,985 to $8,490/monthly
    e. Human Resources Manager - $9,574 to $11,638/monthly

B. Approve the City's Salary Schedule in its entirety as amended.

Fiscal Impact:

None. Sufficient funds were included in the Recommended Budget for FY2026/27.

Purpose:

To implement position and salary changes included in the recommended budget for Fiscal Year 2026/27.

Strategic Focus Area:

This item addresses the Strategic Focus Areas of Workforce Excellence and Fiscal Responsibility by ensuring City departments are appropriately staffed by employees with the knowledge, skills and abilities needed to most effectively and efficiently deliver City services.

Background:

During the annual budget process departments evaluate their existing organizational structures including positions and staffing levels. This year due to the continuing structural deficit, several departments were faced with making the difficult decisions to eliminate and unfund existing vacant and filled positions. In one department, this will result in the layoff of two employees.

In addition to the difficult decisions above, departments need to evaluate whether the existing job descriptions for their employees are appropriate for the duties being performed. Departments also work closely with Human Resources during the budget process when they have a need for a new position where there is no existing City job description.

Analysis:

The recommended changes to the Salary Schedule to abolish the titles of Police Records Clerk – Lead from the Police Officers' Association and Administrative Manager from the Police Mid Managers unit are clean up items. These titles are no longer used by the Police Department. The title change for Parks and Grounds Superintendent to Park Maintenance Superintendent is a clean up item also. The correct title of Park Maintenance Superintendent is reflected on the 5 step Salary Schedule, but it is incorrect on the 9 step Salary Schedule.

The recommended salary adjustment for the City Manager amounts to $10 per year and is needed to resolve a payrate rounding issue in the City's new Tyler Human Resources/Payroll Information System.

At the request of the Police Chief, Human Resources evaluated the duties of the Police Services Analyst. Since the position was established in July 2024, the duties have evolved from performing a variety of coordination, registration and scheduling of staff training and development activities and administering the body worn camera programs, to coordinating and performing professional-level administrative and programmatic work in areas such as budget development, financial administration and reporting, contract administration, management analysis and public information. These duties are consistent with the duties performed by Administrative Analysts in the City. As such, staff recommends the salary for Police Services Analyst be adjusted to be equivalent to Administrative Analyst I.

The new Deputy City Manager class will have overall responsibility for the administrative functions in the City Manager's office. The position will provide high level support to the City Manager in overseeing and implementing the City's Strategic Plan, developing policy, and managing and overseeing a variety of City programs. This recommendation is to add the salary range to the Salary Schedule only.

A new GIS Analyst authorized position was included in the Recommended Budget for FY26/27. This recommended action approves the salary for the new position. The recommended salary is set at the same range as the City's existing Information Technology Analyst.

The Human Resources Department has also evaluated its structure and classifications. Historically,

Human Resources was staffed with Administrative Analyst I/II/III classes which are generic analyst classes used in multiple City departments. As part of the Recommended Budget, those class titles were changed to industry specific Human Resources Analyst I/II classes. Human Resources is not recommending a Human Resources Analyst class equivalent to the Administrative Analyst III at this time. The recommended changes to the Salary Schedule are to set the Human Resources Analyst I salary equivalent to Administrative Analyst I, and Human Resources Analyst II equivalent to Administrative Analyst II. Additionally, Human Resources recommends approval of a new Human Resources Manager class assigned to the Mid Managers unit. This class assists the Human Resources Director in managing and directing assigned functional areas and staff within the Human Resources Department; establishes, develops and implements a broad range of policies, practices and procedures for areas of assignment; and provides highly responsible and complex administrative support to the Director of Human Resources. The recommended salary is set at the average salary found for comparable positions in surrounding jurisdictions.

Lastly, it is recommended that the City Council approve the City's Salary Schedule in its entirety as amended. This ensures the City is meeting the legal requirement that employees' compensation is based on a "Publicly Available Pay Schedule" approved and adopted by the employer's governing body in compliance with public meeting laws.

Fiscal Impact:

There is no new fiscal impact resulting from these recommended actions. Sufficient funds were included in the Recommended Budget for FY2026/27.

Alternatives:

Do not approve the recommended actions.

Recommendation:

Adopt a Resolution taking the following actions effective July 11, 2026:

A. Amending the Salary Schedule to:

1. Adjust the salary for City Manager from $280,000 to $280,010 annually to address a rounding issue in the City's new HRIS/Payroll system.
2. Abolish the titles of Police Records Clerk – Lead and Administrative Manager.
3. Change the title for Parks and Grounds Superintendent to Park Maintenance Superintendent.
4. Adjust the salary for Police Services Analyst from $5,190 - $6,308/monthly to $5,854 - $7,116/monthly.
5. Add the following new salary ranges:

    a. Deputy City Manager - $11,310 to $13,748/monthly
    b. GIS Analyst - $7,150 to $8,689/monthly
    c. Human Resources Analyst I - $6,350 to $7,718/monthly
    d. Human Resources Analyst II - $6,985 to $8,490/monthly
    e. Human Resources Manager - $9,574 to $11,638/monthly

B. Approve the City's Salary Schedule in its entirety as amended.

Attachments:

1. Resolution - Salary Schedule
2. Exhibit A - Sal Sched 071126

Prepared By:
Gina Rowland
Human Resources Manager

Submitted By:
Robert Bendorf
City Manager

ATTACHMENT 1

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY APPROVING AMENDMENTS TO THE CITY'S SALARY SCHEDULE

WHEREAS, during the annual budget process, departments evaluated their existing organizational structures including positions and staffing levels; and

WHEREAS, departments further evaluated whether the existing job descriptions for their employees were appropriate for the duties being performed; and

WHEREAS, position changes and the funding for those changes were included in the City's Recommended Budget for FY26/27; and

WHEREAS, amendments to the Salary Schedule are necessary in order to implement the position changes included in the Recommended Budget.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Yuba City as follows:

SECTION I.

Approve the publicly available City Salary Schedule as set forth in Exhibit A which includes the following changes:

A. Adjust the salary for City Manager from $280,000 to $280,010 annually.

B. Abolish the titles of Police Records Clerk – Lead and Administrative Manager.

C. Change the title for Parks and Grounds Superintendent to Park Maintenance Superintendent.

D. Adjust the salary for Police Services Analyst from $5,190 - $6,308/monthly to $5,854 - $7,116/monthly.

E. Add the following new salary ranges:

    1. Deputy City Manager - $11,310 to $13,748/monthly
    2. GIS Analyst - $7,150 to $8,689/monthly
    3. Human Resources Analyst I - $6,350 to $7,718/monthly
    4. Human Resources Analyst II - $4,663 to $5,668/monthly
    5. Human Resources Manager - $9,574 to $11,638/monthly

SECTION II.

The Director of Human Resources is hereby authorized to implement the provisions of this Resolution.

The forgoing Resolution of the City Council of the City of Yuba City was duly introduced, passed and adopted at a regular meeting thereof held on the 16th day of June 2026.

AYES:

NOES:

ABSENT:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____
Ciara Wakefield, City Clerk

Approved as to Form:

_____
Ian B. Sangster
Kronick, Special Counsel

Exhibits:
A. Salary Schedule

EXHIBIT A

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Confidential

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
1030	ADMINISTRATIVE ASSISTANT	CON	4,702	4,937	5,184	5,443	5,715	Monthly
			27.13	28.48	29.91	31.40	32.97	Hourly
1050	ADMINISTRATIVE ANALYST I	CON	6,350	6,668	7,001	7,351	7,718	Monthly
			36.63	38.47	40.39	42.41	44.53	Hourly
1052	ADMINISTRATIVE ANALYST II	CON	6,985	7,334	7,701	8,086	8,490	Monthly
			40.30	42.31	44.43	46.65	48.98	Hourly
1045	EXECUTIVE ASSISTANT TO THE CITY MANAGER	CON	5,383	5,652	5,935	6,232	6,544	Monthly
			31.06	32.61	34.24	35.95	37.75	Hourly
	HUMAN RESOURCES ANALYST I	CON	6,350	6,667	7,000	7,350	7,718	Monthly
			36.63	38.46	40.38	42.40	44.53	Hourly
	HUMAN RESOURCES ANALYST II	CON	6,985	7,334	7,701	8,086	8,490	Monthly
			40.30	42.31	44.43	46.65	48.98	Hourly
1018	HUMAN RESOURCES TECHNICIAN I	CON	4,238	4,450	4,673	4,907	5,153	Monthly
			24.45	25.67	26.96	28.31	29.73	Hourly
1020	HUMAN RESOURCES TECHNICIAN II	CON	4,663	4,896	5,141	5,398	5,668	Monthly
			26.90	28.25	29.66	31.14	32.70	Hourly
1062	MANAGEMENT ANALYST	CON	7,683	8,067	8,470	8,894	9,339	Monthly
			44.33	46.54	48.87	51.31	53.88	Hourly

Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City receive bilingual pay in the amount of 1.4% of the base rate of pay

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Confidential

JCN	CLASSIFICATION	Bargaining Group	EFFECTIVE 04/28/18 - NEW HIRES ONLY SALARY STEPS 1	2	3	4	5	6	7	8	9	
1230	ADMINISTRATIVE ASSISTANT	CON	4,702	4,820	4,937	5,061	5,184	5,314	5,443	5,579	5,715	Monthly
			27.13	27.81	28.48	29.20	29.91	30.66	31.40	32.19	32.97	Hourly
1250	ADMINISTRATIVE ANALYST I	CON	6,350	6,509	6,668	6,835	7,001	7,176	7,351	7,535	7,718	Monthly
			36.63	37.55	38.47	39.43	40.39	41.40	42.41	43.47	44.53	Hourly
1252	ADMINISTRATIVE ANALYST II	CON	6,985	7,160	7,334	7,518	7,701	7,894	8,086	8,288	8,490	Monthly
			40.30	41.31	42.31	43.37	44.43	45.54	46.65	47.82	48.98	Hourly
1245	EXECUTIVE ASSISTANT TO THE CITY MANAGER	CON	5,383	5,518	5,652	5,794	5,935	6,084	6,232	6,388	6,544	Monthly
			31.06	31.83	32.61	33.43	34.24	35.10	35.95	36.85	37.75	Hourly
	HUMAN RESOURCES ANALYST I	CON	6,350	6,509	6,667	6,834	7,000	7,175	7,350	7,534	7,718	Monthly
			36.63	37.55	38.46	39.43	40.38	41.39	42.40	43.47	44.53	Hourly
	HUMAN RESOURCES ANALYST II	CON	6,985	7,160	7,334	7,518	7,701	7,894	8,086	8,288	8,490	Monthly
			40.30	41.31	42.31	43.37	44.43	45.54	46.65	47.82	48.98	Hourly
1218	HUMAN RESOURCES TECHNICIAN I	CON	4,238	4,344	4,450	4,562	4,673	4,790	4,907	5,030	5,153	Monthly
			24.45	25.06	25.67	26.32	26.96	27.63	28.31	29.02	29.73	Hourly
1220	HUMAN RESOURCES TECHNICIAN II	CON	4,663	4,780	4,896	5,019	5,141	5,270	5,398	5,533	5,668	Monthly
			26.90	27.58	28.25	28.96	29.66	30.40	31.14	31.92	32.70	Hourly
1262	MANAGEMENT ANALYST	CON	7,683	7,875	8,067	8,269	8,470	8,682	8,894	9,117	9,339	Monthly
			44.33	45.43	46.54	47.71	48.87	50.09	51.31	52.60	53.88	Hourly

Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City receive bilingual pay in the amount of 1.4% of the base rate of pay

Confidential Unit (9-Step)

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Executive Unit

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
8070 *	CITY MANAGER	CM	-	-	-	-	23,334	Monthly
			-	-	-	-	134.61	Hourly
8061*	DIRECTOR OF PUBLIC WORKS	DH	12,993	-	-	-	15,793	Monthly
			74.96	-	-	-	91.11	Hourly
8010*	DIRECTOR OF HUMAN RESOURCES	DH	12,613	-	-	-	15,332	Monthly
			72.77	-	-	-	88.45	Hourly
8040*	DIRECTOR OF DEVELOPMENT SERVICES	DH	12,993	-	-	-	15,793	Monthly
			74.96	-	-	-	91.11	Hourly
8140*	DIRECTOR OF COMMUNITY SERVICES	DH	12,613	-	-	-	15,332	Monthly
			72.77	-	-	-	88.45	Hourly
8060*	DIRECTOR OF UTILITIES	DH	12,993	-	-	-	15,793	Monthly
			74.96	-	-	-	91.11	Hourly
8030*	FIRE CHIEF	DH	14,311	-	-	-	17,396	Monthly
			82.57	-	-	-	100.36	Hourly
8050*	POLICE CHIEF	DH	14,311	-	-	-	17,396	Monthly
			82.57	-	-	-	100.36	Hourly
8020*	DIRECTOR OF FINANCE	DH	12,613	-	-	-	15,332	Monthly
			72.77	-	-	-	88.45	Hourly

* Indicates classifications which are not eligible for overtime compensation and are exempt from the Fair Labor Standards Act (FLSA).
Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City
receive bilingual pay in the amount of 1.4% of the base rate of pay

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 1, 2023

Fire Association

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
3110**	FIRE RECRUIT	FIRE	-	-	-	-	5,111	Monthly
			-	-	-	-	21.06	Hourly
3120**	FIREFIGHTER I	FIRE	-	-	-	-	5,669	Monthly
			-	-	-	-	23.36	Hourly
3130**	FIREFIGHTER II	FIRE	-	-	-	-	8,654	Monthly
			-	-	-	-	35.66	Hourly
3140**	FIRE APPARATUS OPERATOR	FIRE	-	-	-	9,076	9,530	Monthly
			-	-	-	37.40	39.27	Hourly
3150**	FIRE CAPTAIN	FIRE	8,976	9,425	9,896	10,391	10,910	Monthly
			36.99	38.84	40.78	42.82	44.96	Hourly
3160	FIRE SAFETY INSPECTOR I	FIRE	6,032	6,334	6,651	6,984	7,333	Monthly
			34.80	36.54	38.37	40.29	42.30	Hourly
3170	FIRE SAFETY INSPECTOR II	FIRE	6,730	7,066	7,419	7,790	8,179	Monthly
			38.83	40.77	42.80	44.94	47.19	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 1, 2023

FIRE DEPARTMENT CLASSIFICATIONS CALCULATED ON A 40 HOUR WORK WEEK:

JCN	CLASSIFICATION -	Bargaining Group	SALARY STEPS 1	2	3	4	5
3250	FIRE CAPTAIN	FIRE	8,976	9,425	9,896	10,391	10,910
			51.78	54.38	57.09	59.95	62.94
3210	FIRE RECRUIT	FIRE					5,111
							29.49
3220	FIREFIGHTER I	FIRE					5,669
							32.71
3230	FIREFIGHTER II	FIRE					8,654
							49.93
3240	FIRE - APPARATUS OPERATOR	FIRE				9,076	9,530
						52.36	54.98

Pensionable Compensation for New Members (PEPRA)

MOU Article 5.10 - Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City receive bilingual pay in the amount of 1.4% of the base rate of pay

MOU Article 17 - Special Assignments
Employees who are routinely and consistently assigned to Special Assignments will receive an additional percentage of their base hourly rate.

Hazmat Team	2.5%
Tactical EMS	2.5%
Technical Rescue Team	2.5%

** Indicates classifications whose hourly rates are computed on the basis of an average 56 hour duty week.

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 1, 2023

Fire Management

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
6055**	FIRE BATTALION CHIEF	FM	10,190	10,700	11,235	11,797	12,387	Monthly
			41.99	44.09	46.30	48.61	51.04	Hourly
6066	FIRE MARSHAL	FM	10,190	10,700	11,235	11,797	12,387	Monthly
			58.79	61.73	64.82	68.06	71.46	Hourly

FIRE DEPARTMENT CLASSIFICATIONS CALCULATED ON A 40 HOUR WORK WEEK:

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
6140	FIRE BATTALION CHIEF	FM	10,190	10,700	11,235	11,797	12,387	Monthly
			58.79	61.73	64.82	68.06	71.46	Hourly

MOU Article 3.6 - Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City receive bilingual pay in the amount of 1.4% of the base rate of pay

** Indicates classifications whose hourly rates are computed on the basis of an average 56 hour duty week.

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

First Level Management

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
6069	ACCOUNTANT - SENIOR	FLM	6,394	6,714	7,050	7,403	7,773	Monthly
			36.89	38.73	40.67	42.71	44.84	Hourly
6060	ADMINISTRATIVE ANALYST II	FLM	6,750	7,087	7,441	7,813	8,203	Monthly
			38.94	40.89	42.93	45.08	47.33	Hourly
6015	ANIMAL SHELTER SUPERVISOR	FLM	5,042	5,294	5,559	5,837	6,129	Monthly
			29.09	30.54	32.07	33.68	35.36	Hourly
6215	BUSINESS DEVELOPMENT LIAISON	FLM	6,950	7,298	7,663	8,046	8,448	Monthly
			40.10	42.10	44.21	46.42	48.74	Hourly
6090	CONSTRUCTION INSPECTOR-SENIOR	FLM	6,708	7,043	7,395	7,765	8,153	Monthly
			38.70	40.63	42.66	44.80	47.04	Hourly
6063	CUSTOMER SERVICE MANAGER	FLM	6,528	6,854	7,197	7,557	7,936	Monthly
			37.66	39.54	41.52	43.60	45.79	Hourly
6220	ELECTRICAL/INSTRUMENTATION SUPERVISOR	FLM	8,164	8,572	9,001	9,451	9,923	Monthly
			47.10	49.45	51.93	54.53	57.25	Hourly
6120	ENGINEER - ASSOCIATE CIVIL	FLM	8,130	8,537	8,964	9,412	9,883	Monthly
			46.90	49.25	51.72	54.30	57.02	Hourly
6225	ENVIRONMENTAL COMPLIANCE COORDINATOR	FLM	6,937	7,284	7,648	8,030	8,431	Monthly
			40.02	42.02	44.12	46.33	48.64	Hourly
6042	FACILITIES MAINTENANCE SUPERVISOR	FLM	6,025	6,326	6,642	6,974	7,322	Monthly
			34.76	36.50	38.32	40.23	42.24	Hourly
6050	FLEET SUPERVISOR	FLM	7,941	8,338	8,755	9,193	9,653	Monthly
			45.81	48.10	50.51	53.04	55.69	Hourly
	GEOGRAPHIC INFORMATION SYSTEMS ANALYST	FLM	7,150	7,508	7,883	8,277	8,689	Monthly
			41.25	43.32	45.48	47.75	50.13	Hourly
6064*	INFORMATION TECHNOLOGY ANALYST	FLM	7,150	7,508	7,883	8,277	8,689	Monthly
			41.25	43.32	45.48	47.75	50.13	Hourly
6142*	INFORMATION TECHNOLOGY ANALYST SENIOR	FLM	7,864	8,257	8,670	9,103	9,558	Monthly
			45.37	47.64	50.02	52.52	55.14	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

First Level Management

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
6085	LABORATORY SUPERVISOR	FLM	7,061	7,414	7,785	8,174	8,582	Monthly
			40.74	42.77	44.91	47.16	49.51	Hourly
6040	MAINTENANCE SUPERVISOR-STREETS	FLM	6,025	6,326	6,642	6,974	7,322	Monthly
			34.76	36.50	38.32	40.23	42.24	Hourly
6043	PARKS MAINTENANCE SUPERVISOR	FLM	6,025	6,326	6,642	6,974	7,322	Monthly
			34.76	36.50	38.32	40.23	42.24	Hourly
6061	PLANNER-ASSOCIATE	FLM	6,619	6,950	7,298	7,663	8,046	Monthly
			38.19	40.10	42.10	44.21	46.42	Hourly
6065	PLANT MAINTENANCE SUPERVISOR	FLM	8,492	8,917	9,363	9,831	10,324	Monthly
			48.99	51.44	54.02	56.72	59.56	Hourly
6030*	RECREATION SUPERVISOR I	FLM	5,859	6,152	6,460	6,783	7,122	Monthly
			33.80	35.49	37.27	39.13	41.09	Hourly
6045*	RECREATION SUPERVISOR II	FLM	6,446	6,768	7,106	7,461	7,834	Monthly
			37.19	39.05	41.00	43.04	45.20	Hourly
6046*	RECREATION SUPERVISOR III	FLM	7,090	7,444	7,816	8,207	8,617	Monthly
			40.90	42.95	45.09	47.35	49.72	Hourly
6210	WASTEWATER COLLECTIONS SUPERVISOR	FLM	6,816	7,157	7,515	7,891	8,285	Monthly
			39.32	41.29	43.36	45.53	47.80	Hourly
6096	WASTEWATER TRT FACILITY CHIEF OPERATOR	FLM	8,648	9,080	9,534	10,011	10,511	Monthly
			49.89	52.38	55.00	57.76	60.64	Hourly
6111	WASTEWATER TRT FACILITY SUPERVISOR	FLM	9,512	9,988	10,487	11,011	11,563	Monthly
			54.88	57.62	60.50	63.53	66.71	Hourly
6041	WATER DISTRIBUTION SUPERVISOR	FLM	7,730	8,116	8,522	8,948	9,396	Monthly
			44.60	46.82	49.17	51.62	54.21	Hourly
6160	WATER TREATMENT FACILITY CHIEF OPERATOR	FLM	8,648	9,080	9,534	10,011	10,511	Monthly
			49.89	52.38	55.00	57.76	60.64	Hourly
6110	WATER TREATMENT FACILITY SUPERVISOR	FLM	9,512	9,988	10,487	11,011	11,563	Monthly
			54.88	57.62	60.50	63.53	66.71	Hourly

First Level Management - Page 2

First Level Management

Pensionable Compensation for New Members (PEPRA)

MOU Article 1.4 - Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City receive bilingual pay in the amount of 1.4% of the base rate of pay

MOU Article 14.7 - Shift Differential
A shift differential of 5% of base pay shall be paid to those supervisors who are assigned to work an operator shift from 7:00pm to 7:00am. If a supervisor who is assigned to an operator shift elects to utilize vacation, sick leave, CTO or any other paid leave time, shall not be paid shift differential while on such leave.

MOU Article 14.1 - Water Certificate Pay
Non-Water FLM employees possessing a D-1, D-2 or D-3 certificate will receive an additional $50, non cumulative (cap)

Certificate Pay
Employees in the Parks Division who possess a Qualified Pesticide Applicator's Certificate will receive 1.5% of their base rate of pay.

Employees in the Parks Division who possess a Pool Operations Certificate will receive 1.5% of their base rate of pay

Employees in the Community Services Department who possess a Certified Playground Safety Inspector Certificate will receive 1.5% of their base rate of pay

Employees in the following divisions: Water Distribution, Wastewater Collections, Utilities, Fleet, Streets, Parks Maintenance, and Recreation who drive the bus and possess a valid California Driver's License with a passenger endorsement receive Special Class Driver's License Pay of one and a half percent (1.5%) of their base rate of pay

\+ Indicates classifications which are exempt from the Fair Labor Standards Act (FLSA).

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

First Level Management

JCN	CLASSIFICATION	Bargaining Group	EFFECTIVE 11/25/17 - NEW HIRES ONLY SALARY STEPS 1	2	3	4	5	6	7	8	9	
6469	ACCOUNTANT - SENIOR	FLM	6,394	6,554	6,714	6,882	7,050	7,227	7,403	7,588	7,773	Monthly
			36.89	37.81	38.73	39.70	40.67	41.69	42.71	43.78	44.84	Hourly
6460	ADMINISTRATIVE ANALYST II	FLM	6,750	6,919	7,087	7,264	7,441	7,627	7,813	8,007	8,203	Monthly
			38.94	39.92	40.89	41.91	42.93	44.00	45.08	46.19	47.33	Hourly
6415	ANIMAL SHELTER SUPERVISOR	FLM	5,042	5,168	5,294	5,427	5,559	5,698	5,837	5,983	6,129	Monthly
			29.09	29.82	30.54	31.31	32.07	32.87	33.68	34.52	35.36	Hourly
6515	BUSINESS DEVELOPMENT LIAISON	FLM	6,950	7,124	7,298	7,481	7,663	7,855	8,046	8,247	8,448	Monthly
			40.10	41.10	42.10	43.16	44.21	45.32	46.42	47.58	48.74	Hourly
6490	CONSTRUCTION INSPECTOR-SENIOR	FLM	6,708	6,876	7,043	7,219	7,395	7,580	7,765	7,958	8,153	Monthly
			38.70	39.67	40.63	41.65	42.66	43.73	44.80	45.91	47.04	Hourly
6463	CUSTOMER SERVICE MANAGER	FLM	6,528	6,691	6,854	7,026	7,197	7,377	7,557	7,746	7,936	Monthly
			37.66	38.60	39.54	40.53	41.52	42.56	43.60	44.69	45.79	Hourly
6420	ELECTRICAL/INSTRUMENTATION SUPERVISOR	FLM	8,164	8,368	8,572	8,787	9,001	9,226	9,451	9,688	9,923	Monthly
			47.10	48.28	49.45	50.69	51.93	53.23	54.53	55.89	57.25	Hourly
6520	ENGINEER - ASSOCIATE CIVIL	FLM	8,130	8,334	8,537	8,751	8,964	9,188	9,412	9,648	9,883	Monthly
			46.90	48.08	49.25	50.49	51.72	53.01	54.30	55.66	57.02	Hourly
6425	ENVIRONMENTAL COMPLIANCE COORDINATOR	FLM	6,937	7,111	7,284	7,466	7,648	7,839	8,030	8,230	8,431	Monthly
			40.02	41.03	42.02	43.07	44.12	45.23	46.33	47.48	48.64	Hourly
6442	FACILITIES MAINTENANCE SUPERVISOR	FLM	6,025	6,176	6,326	6,484	6,642	6,808	6,974	7,148	7,322	Monthly
			34.76	35.63	36.50	37.41	38.32	39.28	40.23	41.24	42.24	Hourly
6450	FLEET SUPERVISOR	FLM	7,941	8,140	8,338	8,547	8,755	8,974	9,193	9,422	9,653	Monthly
			45.81	46.96	48.10	49.31	50.51	51.77	53.04	54.36	55.69	Hourly
	GEOGRAPHIC INFORMATION SYSTEMS ANALYST	FLM	7,150	7,329	7,508	7,696	7,883	8,080	8,277	8,483	8,689	Monthly
			41.25	42.28	43.32	44.40	45.48	46.62	47.75	48.94	50.13	Hourly
6464*	INFORMATION TECHNOLOGY ANALYST	FLM	7,150	7,329	7,508	7,696	7,883	8,080	8,277	8,483	8,689	Monthly
			41.25	42.28	43.32	44.40	45.48	46.62	47.75	48.94	50.13	Hourly
6542	INFORMATION TECHNOLOGY ANALYST SENIOR	FLM	7,864	8,061	8,257	8,464	8,670	8,887	9,103	9,331	9,558	Monthly
			45.37	46.51	47.64	48.83	50.02	51.27	52.52	53.83	55.14	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

First Level Management

EFFECTIVE 11/25/17 - NEW HIRES ONLY

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
6485	LABORATORY SUPERVISOR	FLM	7,061	7,238	7,414	7,600	7,785	7,980	8,174	8,378	8,582	Monthly
			40.74	41.76	42.77	43.85	44.91	46.04	47.16	48.33	49.51	Hourly
6440	MAINTENANCE SUPERVISOR-STREETS	FLM	6,025	6,176	6,326	6,484	6,642	6,808	6,974	7,148	7,322	Monthly
			34.76	35.63	36.50	37.41	38.32	39.28	40.23	41.24	42.24	Hourly
6443	PARKS MAINTENANCE SUPERVISOR	FLM	6,025	6,176	6,326	6,484	6,642	6,808	6,974	7,148	7,322	Monthly
			34.76	35.63	36.50	37.41	38.32	39.28	40.23	41.24	42.24	Hourly
6461	PLANNER-ASSOCIATE	FLM	6,619	6,785	6,950	7,124	7,298	7,481	7,663	7,854	8,046	Monthly
			38.19	39.14	40.10	41.10	42.10	43.16	44.21	45.31	46.42	Hourly
6465	PLANT MAINTENANCE SUPERVISOR	FLM	8,492	8,705	8,917	9,140	9,363	9,597	9,831	10,076	10,324	Monthly
			48.99	50.22	51.44	52.73	54.02	55.37	56.72	58.13	59.56	Hourly
6430	RECREATION SUPERVISOR I	FLM	5,859	6,006	6,152	6,306	6,460	6,622	6,783	6,952	7,122	Monthly
			33.80	34.65	35.49	36.38	37.27	38.20	39.13	40.11	41.09	Hourly
6445	RECREATION SUPERVISOR II	FLM	6,446	6,607	6,768	6,937	7,106	7,284	7,461	7,648	7,834	Monthly
			37.19	38.12	39.05	40.02	41.00	42.02	43.04	44.12	45.20	Hourly
6446	RECREATION SUPERVISOR III	FLM	7,090	7,267	7,444	7,630	7,816	8,012	8,207	8,412	8,617	Monthly
			40.90	41.93	42.95	44.02	45.09	46.22	47.35	48.53	49.72	Hourly
6610	WASTEWATER COLLECTIONS SUPERVISOR	FLM	6,816	6,987	7,157	7,336	7,515	7,703	7,891	8,088	8,285	Monthly
			39.32	40.31	41.29	42.32	43.36	44.44	45.53	46.66	47.80	Hourly
6496	WASTEWATER TRT FACILITY CHIEF OPERATOR	FLM	8,648	8,864	9,080	9,307	9,534	9,773	10,011	10,260	10,511	Monthly
			49.89	51.14	52.38	53.69	55.00	56.38	57.76	59.19	60.64	Hourly
6511	WASTEWATER TRT FACILITY SUPERVISOR	FLM	9,512	9,750	9,988	10,238	10,487	10,749	11,011	11,286	11,563	Monthly
			54.88	56.25	57.62	59.07	60.50	62.01	63.53	65.11	66.71	Hourly
6441	WATER DISTRIBUTION SUPERVISOR	FLM	7,730	7,923	8,116	8,319	8,522	8,735	8,948	9,172	9,396	Monthly
			44.60	45.71	46.82	47.99	49.17	50.39	51.62	52.92	54.21	Hourly
6560	WATER TREATMENT FACILITY CHIEF OPERATOR	FLM	8,648	8,864	9,080	9,307	9,534	9,773	10,011	10,260	10,511	Monthly
			49.89	51.14	52.38	53.69	55.00	56.38	57.76	59.19	60.64	Hourly
6510	WATER TREATMENT FACILITY SUPERVISOR	FLM	9,512	9,750	9,988	10,238	10,487	10,749	11,011	11,286	11,563	Monthly
			54.88	56.25	57.62	59.07	60.50	62.01	63.53	65.11	66.71	Hourly

First Level Management (9 Step) - Page 2

First Level Management

Pensionable Compensation for New Members (PEPRA)

MOU Article 1.4 - Bilingual Pay - effective November 18, 2023
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MOU Article 14.7 - Shift Differential
A shift differential of 5% of base pay shall be paid to those supervisors who are assigned to work an operator shift from 7:00pm to 7:00am. If a supervisor who is assigned to an operator shift elects to utilize vacation, sick leave, CTO or any other paid leave time, shall not be paid shift differential while on such leave.

MOU Article 14.1 - Water Certificate Pay
Non-Water FLM employees possessing a D-1, D-2 or D-3 certificate will receive an additional $50, non cumulative (cap)

Certificate Pay
Employees in the Parks Division who possess a Qualified Pesticide Applicator's Certificate will receive 1.5% of their base rate of pay.

Employees in the Parks Division who possess a Pool Operations Certificate will receive 1.5% of their base rate of pay

Employees in the Community Services Department who possess a Certified Playground Safety Inspector Certificate will receive 1.5% of their base rate of pay

Employees in the following divisions: Water Distribution, Wastewater Collections, Utilities, Fleet, Streets, Parks Maintenance, and Recreation who drive the bus and possess a valid California Driver's License with a passenger endorsement receive Special Class Driver's License Pay of one and a half percent (1.5%) of their base rate of pay

\+ Indicates classifications which are exempt from the Fair Labor Standards Act (FLSA).

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Mid Managers

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	
7165*	ACCOUNTING MANAGER	MM	10,041	10,543	11,070	11,624	12,205		Monthly
			57.93	60.83	63.87	67.06	70.42		Hourly
7070*	ADMINISTRATIVE ANALYST III	MM	7,761	8,149	8,556	8,984	9,433		Monthly
			44.78	47.01	49.36	51.83	54.42		Hourly
7125*	ANIMAL SERVICES MANAGER	MM	8,600	9,030	9,481	9,955	10,452		Monthly
			49.62	52.10	54.70	57.43	60.30		Hourly
7125*	BUSINESS DEVELOPMENT MANAGER	MM	10,335	10,852	11,395	11,965	12,563		Monthly
			59.63	62.61	65.74	69.03	72.48		Hourly
7112*	CHIEF BUILDING OFFICIAL	MM	9,857	10,350	10,868	11,411	11,981		Monthly
			56.87	59.71	62.70	65.83	69.12		Hourly
7418*	CITY CLERK ADMINISTRATOR	MM	9,434	9,906	10,401	10,921	11,467		Monthly
			54.43	57.15	60.01	63.01	66.16		Hourly
7114*	CITY CLERK ADMINISTRATOR - RISK MANAGER	MM	10,142	10,649	11,181	11,740	12,327		Monthly
			58.51	61.44	64.51	67.73	71.11		Hourly
	DEPUTY CITY MANAGER	MM	11,310	11,876	12,470	13,093	13,748		Monthly
			65.25	68.52	71.94	75.54	79.32		Hourly
7185*	DEPUTY DIRECTOR - DEVELOPMENT SERVICES	MM	12,374	12,993	13,643	14,325	15,041		Monthly
			71.39	74.96	78.71	82.64	86.78		Hourly
7175*	DEPUTY P.W. DIRECTOR - ENGINEERING	MM	11,298	11,863	12,456	13,079	13,733		Monthly
			65.18	68.44	71.86	75.46	79.23		Hourly
7160*	DEPUTY DIRECTOR - UTILITIES	MM	9,989	10,488	11,012	11,563	12,141		Monthly
			57.63	60.51	63.53	66.71	70.05		Hourly
7110*	DIVISION FIRE CHIEF	MM	11,720	12,306	12,921	13,567	14,245		Monthly
			67.62	71.00	74.54	78.27	82.18		Hourly
7120*	ENGINEER - SENIOR	MM	9,350	9,818	10,309	10,824	11,366		Monthly
			53.94	56.64	59.48	62.45	65.57		Hourly
7200*	ENVIRONMENTAL COMPLIANCE MANAGER	MM	9,080	9,534	10,011	10,512	11,037		Monthly
			52.38	55.00	57.76	60.65	63.68		Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Mid Managers

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	
	HUMAN RESOURCES MANAGER	MM	9,574	10,053	10,556	11,084	11,638		Monthly
			55.23	58.00	60.90	63.95	67.14		Hourly
7205*	INFORMATION SECURITY ADMINISTRATOR	MM	9,043	9,495	9,970	10,469	10,992		Monthly
			52.17	54.78	57.52	60.40	63.42		Hourly
7105*	INFORMATION TECHNOLOGY MANAGER	MM	10,018	10,519	11,045	11,597	12,177		Monthly
			57.80	60.69	63.72	66.91	70.25		Hourly
7043*	PARK MAINTENANCE MANAGER	MM	6,928	7,274	7,638	8,020	8,421		Monthly
			39.97	41.97	44.07	46.27	48.58		Hourly
7044*	PARK MAINTENANCE SUPERINTENDENT	MM	8,600	9,030	9,481	9,955	10,452		Monthly
			49.62	52.10	54.70	57.43	60.30		Hourly
7065*	PLANNER-SENIOR	MM	7,611	7,992	8,392	8,812	9,253		Monthly
			43.91	46.11	48.42	50.84	53.38		Hourly
7060*	PLANNING MANAGER	MM	9,415	9,886	10,380	10,899	11,444		Monthly
			54.32	57.03	59.88	62.88	66.02		Hourly
7085*	PROJECT MANAGER	MM	7,879	8,273	8,687	9,121	9,578		Monthly
			45.46	47.73	50.12	52.62	55.26		Hourly
7046*	RECREATION MANAGER	MM	8,062	8,465	8,888	9,332	9,799		Monthly
			46.51	48.84	51.28	53.84	56.53		Hourly
7015*	UTILITIES ADMINISTRATIVE MANAGER	MM	8,943	9,390	9,860	10,353	10,871		Monthly
			51.59	54.17	56.88	59.73	62.72		Hourly
7090*	UTILITIES MAINTENANCE SUPERINTENDENT	MM	9,071	9,525	10,001	10,501	11,026		Monthly
			52.33	54.95	57.70	60.58	63.61		Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Mid Managers

MOU Article 1.5 - Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City receive bilingual pay in the amount of 1.4% of the base rate of pay

Certificate Pay
Employees in the Parks Division who possess a Pool Operations Certificate will receive 1.5% of their base rate of pay

Employees in the Community Services Department who possess a Certified Playground Safety Inspector Certificate will receive 1.5% of their base rate of pay

Employees in the following divisions: Water Distribution, Wastewater Collections, Utilities, Fleet, Streets, Parks Maintenance, and Recreation who drive the bus and possess a valid California Driver's License with a passenger endorsement receive Special Class Driver's License Pay of one and a half percent (1.5%) of their base rate of pay

* Indicates classifications which are not eligible for overtime compensation and are exempt from the Fair Labor Standards Act (FLSA).

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Mid Managers

JCN	CLASSIFICATION	Bargaining Group	EFFECTIVE 04/28/2018 - NEW HIRES ONLY SALARY STEPS 1	2	3	4	5	6	7	8	9	
7565*	ACCOUNTING MANAGER	MM	10,041	10,292	10,543	10,807	11,070	11,347	11,624	11,915	12,205	Monthly
			57.93	59.38	60.83	62.35	63.87	65.46	67.06	68.74	70.42	Hourly
7470*	ADMINISTRATIVE ANALYST III	MM	7,761	7,955	8,149	8,353	8,556	8,770	8,984	9,209	9,433	Monthly
			44.78	45.89	47.01	48.19	49.36	50.60	51.83	53.13	54.42	Hourly
7525*	ANIMAL SERVICES MANAGER	MM	8,600	8,815	9,030	9,256	9,481	9,718	9,955	10,204	10,452	Monthly
			49.62	50.86	52.10	53.40	54.70	56.07	57.43	58.87	60.30	Hourly
7425*	BUSINESS DEVELOPMENT MANAGER	MM	10,335	10,594	10,852	11,124	11,395	11,680	11,965	12,264	12,563	Monthly
			59.63	61.12	62.61	64.18	65.74	67.38	69.03	70.75	72.48	Hourly
7512*	CHIEF BUILDING OFFICIAL	MM	9,857	10,104	10,350	10,609	10,868	11,140	11,411	11,696	11,981	Monthly
			56.87	58.29	59.71	61.21	62.70	64.27	65.83	67.48	69.12	Hourly
7419*	CITY CLERK ADMINISTRATOR	MM	9,434	9,670	9,906	10,154	10,401	10,661	10,921	11,194	11,467	Monthly
			54.43	55.79	57.15	58.58	60.01	61.51	63.01	64.58	66.16	Hourly
7414*	CITY CLERK ADMINISTRATOR - RISK MANAGER	MM	10,142	10,396	10,649	10,915	11,181	11,461	11,740	12,033	12,327	Monthly
			58.51	59.98	61.44	62.97	64.51	66.12	67.73	69.42	71.11	Hourly
	DEPUTY CITY MANAGER	MM	11,310	11,593	11,876	12,173	12,470	12,782	13,093	13,421	13,748	Monthly
			65.25	66.88	68.52	70.23	71.94	73.74	75.54	77.43	79.32	Hourly
7585*	DEPUTY DIRECTOR - DEVELOPMENT SERVICES	MM	12,374	12,684	12,993	13,318	13,643	13,984	14,325	14,683	15,041	Monthly
			71.39	73.18	74.96	76.83	78.71	80.68	82.64	84.71	86.78	Hourly
7575*	DEPUTY P.W. DIRECTOR - ENGINEERING	MM	11,298	11,581	11,863	12,160	12,456	12,768	13,079	13,406	13,733	Monthly
			65.18	66.81	68.44	70.15	71.86	73.66	75.46	77.34	79.23	Hourly
7560*	DEPUTY DIRECTOR - UTILITIES	MM	9,989	10,239	10,488	10,750	11,012	11,288	11,563	11,852	12,141	Monthly
			57.63	59.07	60.51	62.02	63.53	65.12	66.71	68.38	70.05	Hourly
7510*	DIVISION FIRE CHIEF	MM	11,720	12,013	12,306	12,614	12,921	13,244	13,567	13,906	14,245	Monthly
			67.62	69.31	71.00	72.77	74.54	76.41	78.27	80.23	82.18	Hourly
7520*	ENGINEER - SENIOR	MM	9,350	9,584	9,818	10,064	10,309	10,567	10,824	11,095	11,366	Monthly
			53.94	55.29	56.64	58.06	59.48	60.96	62.45	64.01	65.57	Hourly
7600*	ENVIRONMENTAL COMPLIANCE MANAGER	MM	9,080	9,307	9,534	9,773	10,011	10,262	10,512	10,775	11,037	Monthly
			52.38	53.69	55.00	56.38	57.76	59.20	60.65	62.16	63.68	Hourly

Mid Manager (9 Step) - Page 1

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Mid Managers

JCN	CLASSIFICATION	Bargaining Group	EFFECTIVE 04/28/2018 - NEW HIRES ONLY SALARY STEPS 1	2	3	4	5	6	7	8	9	
	HUMAN RESOURCES MANAGER	MM	9,574	9,814	10,053	10,305	10,556	10,820	11,084	11,361	11,638	Monthly
			55.23	56.62	58.00	59.45	60.90	62.42	63.95	65.54	67.14	Hourly
7605*	INFORMATION SECURITY ADMINISTRATOR	MM	9,043	9,269	9,495	9,733	9,970	10,220	10,469	10,731	10,992	Monthly
			52.17	53.48	54.78	56.15	57.52	58.96	60.40	61.91	63.42	Hourly
7505*	INFORMATION TECHNOLOGY MANAGER	MM	10,018	10,269	10,519	10,782	11,045	11,321	11,597	11,887	12,177	Monthly
			57.80	59.24	60.69	62.20	63.72	65.31	66.91	68.58	70.25	Hourly
7443*	PARK MAINTENANCE MANAGER	MM	6,928	7,101	7,274	7,456	7,638	7,829	8,020	8,220	8,421	Monthly
			39.97	40.97	41.97	43.02	44.07	45.17	46.27	47.42	48.58	Hourly
7444*	PARK MAINTENANCE SUPERINTENDENT	MM	8,600	8,815	9,030	9,256	9,481	9,718	9,955	10,204	10,452	Monthly
			49.62	50.86	52.10	53.40	54.70	56.07	57.43	58.87	60.30	Hourly
7465*	PLANNER-SENIOR	MM	7,611	7,802	7,992	8,192	8,392	8,602	8,812	9,032	9,253	Monthly
			43.91	45.01	46.11	47.26	48.42	49.63	50.84	52.11	53.38	Hourly
7460*	PLANNING MANAGER	MM	9,415	9,651	9,886	10,133	10,380	10,640	10,899	11,172	11,444	Monthly
			54.32	55.68	57.03	58.46	59.88	61.38	62.88	64.45	66.02	Hourly
7485*	PROJECT MANAGER	MM	7,879	8,076	8,273	8,480	8,687	8,904	9,121	9,349	9,578	Monthly
			45.46	46.59	47.73	48.92	50.12	51.37	52.62	53.94	55.26	Hourly
7446*	RECREATION MANAGER	MM	8,062	8,264	8,465	8,677	8,888	9,110	9,332	9,565	9,799	Monthly
			46.51	47.68	48.84	50.06	51.28	52.56	53.84	55.18	56.53	Hourly
7415*	UTILITIES ADMINISTRATIVE MANAGER	MM	8,943	9,167	9,390	9,625	9,860	10,107	10,353	10,612	10,871	Monthly
			51.59	52.89	54.17	55.53	56.88	58.31	59.73	61.22	62.72	Hourly
7490*	UTILITIES MAINTENANCE SUPERINTENDENT	MM	9,071	9,298	9,525	9,763	10,001	10,251	10,501	10,764	11,026	Monthly
			52.33	53.64	54.95	56.33	57.70	59.14	60.58	62.10	63.61	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Mid Managers

MOU Article 1.5 - Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City receive bilingual pay in the amount of 1.4% of the base rate of pay

Certificate Pay
Employees in the Parks Division who possess a Pool Operations Certificate will receive 1.5% of their base rate of pay

Employees in the Community Services Department who possess a Certified Playground Safety Inspector Certificate will receive 1.5% of their base rate of pay

Employees in the following divisions: Water Distribution, Wastewater Collections, Utilities, Fleet, Streets, Parks Maintenance, and Recreation who drive the bus and possess a valid California Driver's License with a passenger endorsement receive Special Class Driver's License Pay of one and a half percent (1.5%) of their base rate of pay

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CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 1, 2023

Police Mid-Managers

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
7180*	ASSISTANT POLICE CHIEF	Police MM	12,541	13,168	13,826	14,517	15,243	Monthly
			72.35	75.97	79.77	83.75	87.94	Hourly
7150*	POLICE COMMANDER	Police MM	11,944	12,541	13,168	13,826	14,517	Monthly
			68.91	72.35	75.97	79.77	83.75	Hourly
7111*	POLICE LIEUTENANT	Police MM	10,638	11,170	11,728	12,314	12,930	Monthly
			61.37	64.44	67.66	71.04	74.60	Hourly

Pensionable Compensation for New Members (PEPRA)

MOU Article 3.2 - Longevity Pay (Cumulative but not compounded)
Upon completion of service with the City of Yuba City:

15 years	2.50%
20 years	1.75%

MOU Article 3.3 - Education Incentive
Police Sworn Mid-Manager employees awarded a Master's degree or who has successfully completed the FBI National Academy will be eligible to receive an education incentive of 2.5% of base salary.
The maximum education incentive is limited to 2.5% of base salary.

MOU Article 3.4 - Bilingual Pay
Police Mid-Manager employees who are certified as bilingual will receive a bilingual pay incentive 1.4% of their base hourly rate::

* Indicates classifications which are not eligible for overtime compensation and are exempt from the Fair Labor Standards Act (FLSA).

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Police Officers Association

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	
2040	COMMUNITY POLICING COORDINATOR	PD	4,558	4,786	5,025	5,276	5,539		Monthly
			26.30	27.61	28.99	30.44	31.96		Hourly
2130	COMMUNITY SERVICE OFFICER	PD	4,497	4,722	4,958	5,206	5,467		Monthly
			25.94	27.24	28.60	30.03	31.54		Hourly
2125	COMMUNITY SERVICE OFFICER - LEAD	PD	5,076	5,330	5,596	5,876	6,170		Monthly
			29.28	30.75	32.28	33.90	35.59		Hourly
2050	CRIME ANALYST	PD	6,086	6,390	6,710	7,045	7,397		Monthly
			35.11	36.87	38.71	40.64	42.68		Hourly
2005	EXECUTIVE ASSISTANT TO THE POLICE CHIEF	PD	5,383	5,652	5,935	6,232	6,544		Monthly
			31.06	32.61	34.24	35.95	37.75		Hourly
2200	POLICE OFFICER	PD	6,022	6,323	6,639	6,971	7,320	7,686	Monthly
			34.74	36.48	38.30	40.22	42.23	44.34	Hourly
2120	POLICE RECORDS SPECIALIST	PD	3,812	4,003	4,203	4,413	4,634		Monthly
			21.99	23.09	24.25	25.46	26.73		Hourly
2190	POLICE RECRUIT	PD	5,239	5,501	5,776	-	-		Monthly
			30.23	31.74	33.33	-	-		Hourly
2170	POLICE SERVICES ANALYST	PD	5,854	6,147	6,454	6,777	7,116		Monthly
			33.77	35.46	37.23	39.10	41.05		Hourly
2150	PROPERTY AND EVIDENCE TECH	PD	4,558	4,786	5,025	5,276	5,539		Monthly
			26.30	27.61	28.99	30.44	31.96		Hourly
2140	PUBLIC SAFETY DISPATCHER	PD	4,995	5,245	5,507	5,782	6,071		Monthly
			28.82	30.26	31.77	33.36	35.02		Hourly
2151	SENIOR PROPERTY AND EVIDENCE TECH	PD	5,013	5,264	5,527	5,803	6,093		Monthly
			28.92	30.37	31.89	33.48	35.15		Hourly
2180	SENIOR PUBLIC SAFETY DISPATCHER	PD	-	-	-	6,354	6,671		Monthly
			-	-	-	36.66	38.49		Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Police Officers Association

Pensionable Compensation for New Members (PEPRA)

MOU Article 5.2 - Longevity Pay
Longevity Pay for all POA personnel shall be base pay cumulative but not compounded.
Longevity Pay shall be received as follows based on time in service at the City of Yuba City:

Upon completion of 10 years of service	2.50%
Upon completion of 15 years of service	5.00%
Upon completion of 20 years of service	7.50%

MOU Article 5.3 - Sworn Education Incentive -
Education Incentive pay for sworn personnel shall be base pay cumulative but not compounded.
The cap for employees with an Advanced POST certificate shall be 10%.
Sworn Personnel shall receive education incentive as follows:

AA or AS degree	2.50%
BA or BS degree	7.50%
POST Intermediate Certificate	2.50%
POST Advance Certificate	7.50%

MOU Article 5.4 - Non-Sworn Education Incentive -
ALL non-sworn POA personnel shall receive education incentive pay as follows:

AA or AS degree	2.50%
BA or BS degree	5.00%

MOU Article 5.5 - Dispatcher POST Incentive -
Dispatcher I/II/III only will also receive education incentive pay as follows:

POST Public Safety Dispatch Intermediate	2.50%
POST Public Safety Dispatch Advance	2.50%

MOU Article 5.6 - Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City, will receive bilingual pay as a percentage of their base hourly rate.

Sworn Employees	1.40%
Non-Sworn Employees	2.25%

MOU Article 6.1 - Homeless Liaison Premium
Police Officers who are routinely and consistently assigned as a liaison between the unhoused population, advocacy groups, and the Police Department receive a premium in the amount of five percent (5.0) of their base hourly rate of pay for the duration of the assignment.

Police Officers Association

MOU Article 6.2 - Detective Assignment
Police Officer's assigned to the Investigation Division or NET Unit receive Detective Premium in the amount of seven and one-half (7.5) percent of their base hourly rate of pay for the period of the temporary assignment.

MOU Article 6.3 - Traffic Division (effective September 28, 2019)
Employees assigned to the Traffic Division shall receive five percent (5%) hazard pay (calculated from their base hourly wage) on an hour per hour basis.

MOU Article 6.5 - Training Pay
Police Officers designated as Field Training Officers by the Police Chief shall receive five (5) percent additional compensation (calculated from their base hourly wage) while so assigned to the Departments Training Program.

Community Service Officers and Dispatcher II employees designated as Field Training Officers shall receive five percent (5) additional compensation (calculated from their base hourly wage) on an hour per hour basis.

MOU Article 6.6 - Canine Pay
Employees assigned as canine handlers will be compensated at the hourly rate of legal minimum wage for up to seven (7) hours per week that the officer is so assigned.

MOU Article 8.1 - Holiday Pay
Officers assigned to regular patrol shifts and public safety dispatchers shall receive straight time pay for 7.33 hours per month, paid and computed on a bi-weekly basis in lieu of time off.

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 11, 2026

Police Officers Association

EFFECTIVE 03/03/18 - NEW HIRES ONLY

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
2440	COMMUNITY POLICING COORDINATOR	PD	4,558	4,672	4,786	4,906	5,025	5,151	5,276	5,408	5,539	Monthly
			26.30	26.95	27.61	28.30	28.99	29.72	30.44	31.20	31.96	Hourly
2530	COMMUNITY SERVICE OFFICER	PD	4,497	4,610	4,722	4,840	4,958	5,082	5,206	5,336	5,467	Monthly
			25.94	26.60	27.24	27.92	28.60	29.32	30.03	30.78	31.54	Hourly
2525	COMMUNITY SERVICE OFFICER - LEAD	PD	5,076	5,203	5,330	5,463	5,596	5,736	5,876	6,023	6,170	Monthly
			29.28	30.02	30.75	31.52	32.28	33.09	33.90	34.75	35.59	Hourly
2450	CRIME ANALYST	PD	6,086	6,238	6,390	6,550	6,710	6,878	7,045	7,221	7,397	Monthly
			35.11	35.99	36.87	37.79	38.71	39.68	40.64	41.66	42.68	Hourly
2405	EXECUTIVE ASSISTANT TO THE POLICE CHIEF	PD	5,383	5,518	5,652	5,794	5,935	6,084	6,232	6,388	6,544	Monthly
			31.06	31.83	32.61	33.43	34.24	35.10	35.95	36.85	37.75	Hourly
2520	POLICE RECORDS SPECIALIST	PD	3,812	3,908	4,003	4,103	4,203	4,308	4,413	4,523	4,634	Monthly
			21.99	22.55	23.09	23.67	24.25	24.85	25.46	26.09	26.73	Hourly
2470	POLICE SERVICES ANALYST	PD	5,854	6,001	6,147	6,301	6,454	6,616	6,777	6,947	7,116	Monthly
			33.77	34.62	35.46	36.35	37.23	38.17	39.10	40.08	41.05	Hourly
2550	PROPERTY AND EVIDENCE TECHNICIAN	PD	4,558	4,672	4,786	4,906	5,025	5,151	5,276	5,408	5,539	Monthly
			26.30	26.95	27.61	28.30	28.99	29.72	30.44	31.20	31.96	Hourly
2551	SENIOR PROPERTY AND EVIDENCE TECHNICIAN	PD	5,013	5,139	5,264	5,396	5,527	5,665	5,803	5,948	6,093	Monthly
			28.92	29.65	30.37	31.13	31.89	32.68	33.48	34.32	35.15	Hourly

Pensionable Compensation for New Members (PEPRA)

MOU Article 5.2 - Longevity Pay

Longevity Pay for all POA personnel shall be base pay cumulative but not compounded.

Longevity Pay shall be received as follows based on time in service at the City of Yuba City:

Upon completion of 10 years of service	2.50%
Upon completion of 15 years of service	5.00%
Upon completion of 20 years of service	7.50%

MOU Article 5.3 - Sworn Education Incentive -
Education Incentive pay for sworn personnel shall be base pay cumulative but not compounded.
The cap for employees with an Advanced POST certificate shall be 10%.
Sworn Personnel shall receive education incentive as follows:

AA or AS degree	2.50%
BA or BS degree	7.50%
POST Intermediate Certificate	2.50%
POST Advance Certificate	7.50%

MOU Article 5.4 - Non-Sworn Education Incentive -
ALL non-sworn POA personnel shall receive education incentive pay as follows:

AA or AS degree	2.50%
BA or BS degree	5.00%

MOU Article 5.5 - Dispatcher POST Incentive -
Dispatcher I/II/III only will also receive education incentive pay as follows:

POST Public Safety Dispatch Intermediate	2.50%
POST Public Safety Dispatch Advance	2.50%

MOU Article 5.6 - Bilingual Pay - effective November 18, 2023
Employees who are proficient in speaking a foreign language, as determined by the City, will receive bilingual pay as a percentage of their base hourly rate.

Sworn Employees	1.40%
Non-Sworn Employees	2.25%

MOU Article 6.1 - Homeless Liaison Premium
Police Officers who are routinely and consistently assigned as a liaison between the unhoused population, advocacy groups, and the Police Department receive a premium in the amount of five percent (5.0) of their base hourly rate of pay for the duration of the assignment.

MOU Article 6.2 - Detective Assignment
Police Officer's assigned to the Investigation Division or NET Unit receive Detective Premium in the amount of seven and one-half (7.5) percent of their base hourly rate of pay for the period of the temporary assignment.

MOU Article 6.3 - Traffic Division (effective September 28, 2019)
Employees assigned to the Traffic Division shall receive five percent (5%) hazard pay (calculated from their base hourly wage) on an hour per hour basis.

MOU Article 6.5 - Training Pay
Police Officers designated as Field Training Officers by the Police Chief shall receive five (5) percent additional compensation (calculated from their base hourly wage) while so assigned to the Departments Training Program.

Community Service Officers and Dispatcher II employees designated as Field Training Officers shall receive five percent (5) additional compensation (calculated from their base hourly wage) on an hour per hour basis.

MOU Article 6.6 - Canine Pay
Employees assigned as canine handlers will be compensated at the hourly rate of legal minimum wage for up to seven (7) hours per week that the officer is so assigned.

MOU Article 8.1 - Holiday Pay
Officers assigned to regular patrol shifts and public safety dispatchers shall receive straight time pay for 7.33 hours per month, paid and computed on a bi-weekly basis in lieu of time off.

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 1, 2023

Police First Level Managers

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
6100*	POLICE SERGEANT	PFLM	7,573	7,952	8,350	8,768	9,206	Monthly
			43.69	45.88	48.17	50.58	53.11	Hourly
6106	POLICE RECORDS SUPERVISOR	PFLM	4,773	5,012	5,263	5,526	5,802	Monthly
			27.54	28.92	30.36	31.88	33.47	Hourly
6035	COMMUNICATIONS CENTER SUPERVISOR	PFLM	6,472	6,796	7,136	7,493	7,867	Monthly
			37.34	39.21	41.17	43.23	45.39	Hourly

Pensionable Compensation for New Members (PEPRA)

MOU Article 5.1 - Longevity Pay (Cumulative but not compounded)
Upon completion of service with the City of Yuba City:

5 years	1.25%
10 years	2.50%
15 years	5.00%
20 years	7.50%

MOU Article 5.2 & 5.3 - Education Incentive
Education Incentive Pay shall be base pay cumulative but not compounded
Sworn personnel shall have a 12.7% cap

Associate Degree	2.50%
Bachelor Degree	7.50%
POST Intermediate Cert	2.50%
POST Advanced Cert	7.50%
POST Supervisory Cert	5.20%

Non-sworn personnel

Associate Degree	2.50%
Bachelor Degree	5.00%
POST Public Safety Dispatch Adv	2.50%
POST Dispatch Supervisor	5.00%

MOU Article 5.4 - Bilingual Pay
Police First Level Managers who are certified as bilingual will receive a bilingual pay incentive 1.4% of their base hourly rate:

MOU Article 6.2 - Holiday Pay
Officers assigned to regular patrol shifts and public safety dispatchers shall receive straight time pay for 7.33 hours per month, paid and computed on a bi-weekly basis in lieu of time off.

MOU Article 5.12 & 5.13 - FTO Pay and Traffic Division
Employees assigned to Field Training Officer, and/or the Traffic Division shall receive 5% of incentive pay (calculated from base hourly wage).

MOU Article 5.11 - Detective and Net-5 (increase from 5% to 7.5% effective 9/28/19)
Employees assigned to Investigation and/or Net-5
shall receive 7.5% of incentive pay (calculated from base hourly wage).

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JULY 1, 2023

Police First Level Managers

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
6406	POLICE RECORDS SUPERVISOR	PFLM	4,773	4,893	5,012	5,138	5,263	5,395	5,526	5,664	5,802	Monthly
			27.54	28.23	28.92	29.64	30.36	31.13	31.88	32.68	33.47	Hourly
6435	COMMUNICATIONS CENTER SUPERVISOR	PFLM	6,472	6,634	6,796	6,966	7,136	7,315	7,493	7,680	7,867	Monthly
			37.34	38.27	39.21	40.19	41.17	42.20	43.23	44.31	45.39	Hourly

Pensionable Compensation for New Members (PEPRA)

MOU Article 5.1 - Longevity Pay (Cumulative but not compounded)
Upon completion of service with the City of Yuba City:

5 years	1.25%
10 years	2.50%
15 years	5.00%
20 years	7.50%

MOU Article 5.2 & 5.3 - Education Incentive
Education Incentive Pay shall be base pay cumulative but not compounded
Sworn personnel shall have a 12.7% cap

Associate Degree	2.50%
Bachelor Degree	7.50%
POST Intermediate Cert	2.50%
POST Advanced Cert	7.50%
POST Supervisory Cert	5.20%

Non-sworn personnel

Associate Degree	2.50%
Bachelor Degree	5.00%
POST Public Safety Dispatch Adv	2.50%
POST Dispatch Supervisor	5.00%

MOU Article 5.4 - Bilingual Pay
Police First Level Managers who are certified as bilingual will receive a bilingual pay incentive 1.4% of their base hourly rate:

MOU Article 6.2 - Holiday Pay
Officers assigned to regular patrol shifts and public safety dispatchers shall receive straight time pay for 7.33 hours per month, paid and computed on a bi-weekly basis in lieu of time off.

Police First Level Managers (9 Step)

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE MAY 16, 2026

Public Employees Union, Local #1

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
4102	ACCOUNTANT I	PEU, Local 1	5,110	5,366	5,634	5,916	6,212	Monthly
			29.48	30.96	32.50	34.13	35.84	Hourly
4101	ACCOUNTANT II	PEU, Local 1	5,622	5,903	6,198	6,508	6,833	Monthly
			32.43	34.06	35.76	37.55	39.42	Hourly
4100	ACCOUNT CLERK-INTERMEDIATE	PEU, Local 1	3,909	4,104	4,309	4,524	4,752	Monthly
			22.55	23.68	24.86	26.10	27.41	Hourly
4162	ACCOUNT CLERK-SENIOR	PEU, Local 1	4,300	4,515	4,741	4,978	5,227	Monthly
			24.81	26.05	27.35	28.72	30.15	Hourly
4244	ADMINISTRATIVE ANALYST I	PEU, Local 1	5,854	6,147	6,454	6,777	7,116	Monthly
			33.77	35.46	37.23	39.10	41.05	Hourly
4020	ADMINISTRATIVE ASSISTANT	PEU, Local 1	4,543	4,770	5,009	5,259	5,522	Monthly
			26.21	27.52	28.90	30.34	31.86	Hourly
4040	ADMINISTRATIVE CLERK I	PEU, Local 1	3,277	3,441	3,613	3,794	3,983	Monthly
			18.91	19.85	20.84	21.89	22.98	Hourly
4060	ADMINISTRATIVE CLERK II	PEU, Local 1	3,605	3,785	3,974	4,173	4,382	Monthly
			20.80	21.84	22.93	24.08	25.28	Hourly
4085	ADMINISTRATIVE CLERK III	PEU, Local 1	3,966	4,164	4,372	4,591	4,821	Monthly
			22.88	24.02	25.22	26.49	27.81	Hourly
4090	ANIMAL SERVICES OFFICER I	PEU, Local 1	3,990	4,189	4,398	4,618	4,849	Monthly
			23.02	24.17	25.37	26.64	27.97	Hourly
4095	ANIMAL SERVICES OFFICER II	PEU, Local 1	4,373	4,592	4,822	5,063	5,316	Monthly
			25.23	26.49	27.82	29.21	30.67	Hourly
4270	BUILDING INSPECTOR I	PEU, Local 1	5,261	5,524	5,800	6,090	6,395	Monthly
			30.35	31.87	33.46	35.13	36.89	Hourly
4292	BUILDING INSPECTOR II	PEU, Local 1	6,050	6,352	6,670	7,003	7,353	Monthly
			34.90	36.65	38.48	40.40	42.42	Hourly
4062	BUILDING MAINTENANCE WORKER I	PEU, Local 1	4,264	4,477	4,701	4,936	5,183	Monthly
			24.60	25.83	27.12	28.48	29.90	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE MAY 16, 2026

Public Employees Union, Local #1

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
4121	BUILDING MAINTENANCE WORKER II	PEU, Local 1	4,661	4,894	5,139	5,396	5,666	Monthly
			26.89	28.23	29.65	31.13	32.69	Hourly
4290	CODE ENFORCEMENT OFFICER I	PEU, Local 1	4,889	5,133	5,390	5,659	5,942	Monthly
			28.21	29.61	31.10	32.65	34.28	Hourly
4285	CODE ENFORCEMENT OFFICER II	PEU, Local 1	5,377	5,646	5,928	6,224	6,536	Monthly
			31.02	32.57	34.20	35.91	37.71	Hourly
4115	COMMUNITY DEVELOPMENT TECH I	PEU, Local 1	4,440	4,662	4,895	5,140	5,397	Monthly
			25.62	26.90	28.24	29.65	31.13	Hourly
4144	COMMUNITY DEVELOPMENT TECH II	PEU, Local 1	4,883	5,127	5,383	5,652	5,934	Monthly
			28.17	29.58	31.06	32.61	34.24	Hourly
4243	CONSTRUCTION INSPECTOR	PEU, Local 1	5,819	6,110	6,415	6,736	7,072	Monthly
			33.57	35.25	37.01	38.86	40.80	Hourly
4050	CUSTODIAN I	PEU, Local 1	3,524	3,700	3,885	4,079	4,284	Monthly
			20.33	21.35	22.41	23.53	24.71	Hourly
4082	CUSTODIAN II	PEU, Local 1	3,876	4,070	4,273	4,487	4,712	Monthly
			22.36	23.48	24.65	25.89	27.19	Hourly
4081	CUSTODIAN - SENIOR	PEU, Local 1	4,264	4,477	4,701	4,936	5,183	Monthly
			24.60	25.83	27.12	28.48	29.90	Hourly
4030	CUSTOMER SERVICES REP I	PEU, Local 1	3,754	3,942	4,139	4,346	4,564	Monthly
			21.66	22.74	23.88	25.07	26.33	Hourly
4070	CUSTOMER SERVICES REP II	PEU, Local 1	4,130	4,337	4,554	4,782	5,020	Monthly
			23.83	25.02	26.27	27.59	28.96	Hourly
4161	CUSTOMER SERVICES REP.-SENIOR	PEU, Local 1	4,543	4,770	5,009	5,259	5,522	Monthly
			26.21	27.52	28.90	30.34	31.86	Hourly
4170	ELECTRICAL TECHNICIAN I	PEU, Local 1	5,852	6,145	6,452	6,775	7,113	Monthly
			33.76	35.45	37.22	39.09	41.04	Hourly
4265	ELECTRICAL TECHNICIAN II	PEU, Local 1	6,437	6,759	7,097	7,452	7,825	Monthly
			37.14	38.99	40.94	42.99	45.14	Hourly

Public Employees Union, Local #1 - Page 2

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
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Public Employees Union, Local #1

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
4280	ELECTRICAL TECHNICIAN III	PEU, Local 1	7,081	7,435	7,807	8,197	8,607	Monthly
			40.85	42.89	45.04	47.29	49.66	Hourly
4300	ENGINEER - ASSISTANT	PEU, Local 1	6,412	6,733	7,070	7,423	7,793	Monthly
			36.99	38.84	40.79	42.83	44.96	Hourly
4215	ENGINEERING TECHNICIAN I	PEU, Local 1	4,987	5,236	5,498	5,773	6,062	Monthly
			28.77	30.21	31.72	33.31	34.97	Hourly
4250	ENGINEERING TECHNICIAN II	PEU, Local 1	5,391	5,661	5,944	6,241	6,553	Monthly
			31.10	32.66	34.29	36.01	37.81	Hourly
4295	ENGINEERING TECHNICIAN III	PEU, Local 1	6,210	6,520	6,846	7,188	7,547	Monthly
			35.83	37.62	39.50	41.47	43.54	Hourly
4590	ENVIRONMENTAL COMPLIANCE INSPECTOR	PEU, Local 1	5,770	6,058	6,361	6,679	7,013	Monthly
			33.29	34.95	36.70	38.53	40.46	Hourly
	ENVIRONMENTAL COMPLIANCE SPECIALIST	PEU, Local 1	6,452	6,775	7,114	7,470	7,843	Monthly
			37.22	39.09	41.04	43.10	45.25	Hourly
4036	FIELD CUSTOMER SERVICE REP I	PEU, Local 1	3,491	3,666	3,849	4,041	4,243	Monthly
			20.14	21.15	22.21	23.31	24.48	Hourly
4083	FIELD CUSTOMER SERVICE REP II	PEU, Local 1	3,841	4,033	4,235	4,447	4,668	Monthly
			22.16	23.27	24.43	25.66	26.93	Hourly
4219	FLEET MAINTENANCE MECHANIC I	PEU, Local 1	5,143	5,400	5,670	5,953	6,250	Monthly
			29.67	31.15	32.71	34.34	36.06	Hourly
4220	FLEET MAINTENANCE MECHANIC II	PEU, Local 1	5,656	5,939	6,236	6,548	6,875	Monthly
			32.63	34.26	35.98	37.78	39.67	Hourly
4225	FLEET MAINTENANCE MECHANIC-SENIOR	PEU, Local 1	6,222	6,533	6,860	7,203	7,563	Monthly
			35.90	37.69	39.58	41.56	43.63	Hourly
4246	INFORMATION SYSTEMS TECHNICIAN	PEU, Local 1	5,448	5,720	6,006	6,306	6,622	Monthly
			31.43	33.00	34.65	36.38	38.20	Hourly
4260	INFORMATION SYSTEMS TECHNICIAN II	PEU, Local 1	5,994	6,294	6,609	6,939	7,286	Monthly
			34.58	36.31	38.13	40.03	42.03	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE MAY 16, 2026

Public Employees Union, Local #1

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
4281	INSTRUMENTATION TECHNICIAN I	PEU, Local 1	5,853	6,146	6,453	6,776	7,114	Monthly
			33.77	35.46	37.23	39.09	41.04	Hourly
4282	INSTRUMENTATION TECHNICIAN II	PEU, Local 1	6,437	6,759	7,097	7,452	7,825	Monthly
			37.14	38.99	40.94	42.99	45.14	Hourly
4283	INSTRUMENTATION TECHNICIAN III	PEU, Local 1	7,081	7,435	7,807	8,197	8,607	Monthly
			40.85	42.89	45.04	47.29	49.66	Hourly
4110	KENNEL ATTENDANT I	PEU, Local 1	3,614	3,795	3,985	4,184	4,393	Monthly
			20.85	21.89	22.99	24.14	25.35	Hourly
4111	KENNEL ATTENDANT II	PEU, Local 1	3,975	4,174	4,383	4,602	4,833	Monthly
			22.93	24.08	25.29	26.55	27.88	Hourly
4530	LABORATORY ANALYST I	PEU, Local 1	5,567	5,845	6,137	6,444	6,768	Monthly
			32.12	33.72	35.41	37.18	39.04	Hourly
4581	LABORATORY ANALYST II	PEU, Local 1	6,124	6,430	6,751	7,089	7,444	Monthly
			35.33	37.10	38.95	40.90	42.95	Hourly
4064	LABORATORY ASSISTANT	PEU, Local 1	4,842	5,084	5,338	5,605	5,885	Monthly
			27.93	29.33	30.80	32.34	33.95	Hourly
4063	PARK MAINTENANCE WORKER I	PEU, Local 1	3,902	4,097	4,302	4,517	4,743	Monthly
			22.51	23.64	24.82	26.06	27.36	Hourly
4122	PARK MAINTENANCE WORKER II	PEU, Local 1	4,291	4,506	4,731	4,968	5,216	Monthly
			24.76	26.00	27.29	28.66	30.09	Hourly
4200	PARK MAINTENANCE WORKER - SENIOR	PEU, Local 1	4,721	4,957	5,205	5,465	5,738	Monthly
			27.24	28.60	30.03	31.53	33.10	Hourly
4245	PLANNER-ASSISTANT	PEU, Local 1	5,742	6,029	6,330	6,647	6,979	Monthly
			33.13	34.78	36.52	38.35	40.26	Hourly
4255	PLANS EXAMINER I	PEU, Local 1	5,801	6,091	6,396	6,716	7,052	Monthly
			33.47	35.14	36.90	38.75	40.68	Hourly
4256	PLANS EXAMINER II	PEU, Local 1	6,381	6,700	7,035	7,387	7,757	Monthly
			36.81	38.65	40.59	42.62	44.75	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE MAY 16, 2026

Public Employees Union, Local #1

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
4140	PLANT MAINTENANCE MECHANIC	PEU, Local 1	5,656	5,939	6,236	6,548	6,876	Monthly
			32.63	34.26	35.98	37.78	39.67	Hourly
4221	PLANT MAINTENANCE MECHANIC -SENIOR	PEU, Local 1	6,222	6,533	6,860	7,203	7,563	Monthly
			35.90	37.69	39.58	41.56	43.63	Hourly
4061	PUBLIC WORKS MAINTENANCE WORKER I	PEU, Local 1	3,902	4,097	4,302	4,517	4,743	Monthly
			22.51	23.64	24.82	26.06	27.36	Hourly
4120	PUBLIC WORKS MAINTENANCE WORKER II	PEU, Local 1	4,291	4,506	4,731	4,968	5,216	Monthly
			24.76	26.00	27.29	28.66	30.09	Hourly
4150	PUBLIC WORKS MAINTENANCE WORKER III	PEU, Local 1	4,721	4,957	5,205	5,465	5,738	Monthly
			27.24	28.60	30.03	31.53	33.10	Hourly
4145	PUBLIC WORKS PROJECT COORDINATOR	PEU, Local 1	5,391	5,661	5,944	6,241	6,553	Monthly
			31.10	32.66	34.29	36.01	37.81	Hourly
4080	RECREATION COORDINATOR	PEU, Local 1	4,280	4,494	4,719	4,955	5,202	Monthly
			24.69	25.93	27.23	28.59	30.01	Hourly
4117	REGISTERED VETERINARY TECH	PEU, Local 1	4,373	4,592	4,822	5,063	5,316	Monthly
			25.23	26.49	27.82	29.21	30.67	Hourly
4540	QUALITY ASSURANCE OFFICER	PEU, Local 1	6,583	6,912	7,258	7,621	8,002	Monthly
			37.98	39.88	41.87	43.97	46.16	Hourly
4058	UTILITIES TREATMENT PLANT MAINTENANCE WORKER I	PEU, Local 1	3,902	4,097	4,302	4,517	4,743	Monthly
			22.51	23.64	24.82	26.06	27.36	Hourly
4118	UTILITIES TREATMENT PLANT MAINTENANCE WORKER II	PEU, Local 1	4,291	4,506	4,731	4,968	5,216	Monthly
			24.76	26.00	27.29	28.66	30.09	Hourly
4236	WASTEWATER COLLECTIONS MAINTENANCE WORKER I	PEU, Local 1	4,271	4,485	4,709	4,944	5,191	Monthly
			24.64	25.88	27.17	28.52	29.95	Hourly
4237	WASTEWATER COLLECTIONS MAINTENANCE WORKER II	PEU, Local 1	5,125	5,381	5,650	5,932	6,229	Monthly
			29.57	31.04	32.60	34.22	35.94	Hourly
4238	WASTEWATER COLLECTIONS MAINTENANCE WORKER III	PEU, Local 1	5,770	6,058	6,361	6,679	7,013	Monthly
			33.29	34.95	36.70	38.53	40.46	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
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Public Employees Union, Local #1

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
4166	WASTEWATER TREATMENT FACILITY OP. TRAINEE/I	PEU, Local 1	6,198	6,508	6,833	7,175	7,535	Monthly
			35.76	37.55	39.42	41.39	43.47	Hourly
4235	WASTEWATER TREATMENT FACILITY OP. II	PEU, Local 1	6,820	7,161	7,519	7,895	8,288	Monthly
			39.35	41.31	43.38	45.55	47.82	Hourly
4293	WASTEWATER TREATMENT FACILITY OP. III	PEU, Local 1	7,501	7,876	8,270	8,683	9,118	Monthly
			43.28	45.44	47.71	50.09	52.60	Hourly
4284	WATER DISTRIBUTION OPERATOR I	PEU, Local 1	5,142	5,399	5,669	5,952	6,249	Monthly
			29.67	31.15	32.71	34.34	36.05	Hourly
4286	WATER DISTRIBUTION OPERATOR II	PEU, Local 1	5,655	5,938	6,235	6,547	6,874	Monthly
			32.63	34.26	35.97	37.77	39.66	Hourly
4287	WATER DISTRIBUTION OPERATOR III	PEU, Local 1	6,504	6,829	7,170	7,529	7,905	Monthly
			37.52	39.40	41.37	43.44	45.60	Hourly
4131	WATER TREATMENT PLANT OPER.TRAINEE	PEU, Local 1	5,634	5,916	6,212	6,523	6,850	Monthly
			32.50	34.13	35.84	37.63	39.52	Hourly
4180	WATER TREATMENT PLANT OPERATOR II	PEU, Local 1	6,198	6,508	6,833	7,175	7,535	Monthly
			35.76	37.55	39.42	41.39	43.47	Hourly
4230	WATER TREATMENT PLANT OPERATOR III	PEU, Local 1	6,819	7,160	7,518	7,894	8,288	Monthly
			39.34	41.31	43.37	45.54	47.82	Hourly
4291	WATER TREATMENT PLANT OPERATOR IV	PEU, Local 1	7,501	7,876	8,270	8,683	9,118	Monthly
			43.28	45.44	47.71	50.09	52.60	Hourly

Pensionable Compensation for New Members (PEPRA)

MOU Article 13.1 - Bilingual Pay
Employees in classifications who are proficient in speaking a foreign language will receive Bilingual Pay in the amount of 2.25% of the base rate of pay.

MOU Article 17 - Certificate Pay
Employees in the Parks Division or in the Utilities Treatment Plant Maintenance Workers who possess a Qualified Pesticide Applicator's Certificate will receive 1.5% of their base rate of pay.

Employees in the Parks Division who possess a Pool Operations Certificate will receive 1.5% of their base rate of pay

Employees in the Community Services Department who
possess a Certified Playground Safety Inspector Certificate
will receive 1.5% of their base rate of pay

Employees in the following divisions: Water Distribution, Wastewater Collections, Utilities, Fleet, Streets,
Parks Maintenance, and Recreation who drive the bus and possess a valid California Driver's License with a passenger
endorsement receive Special Class Driver's License Pay of one and a half percent (1.5%) of their base rate of pay

MOU Article 18 - Shift Differential
A shift differential of five percent (5%) of their base rate of pay shall be paid to plant operators who are assigned to
work from 7:00 p.m. to 7:00 a.m.

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JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
5102	ACCOUNTANT I	PEU, Local 1	5,110	5,238	5,366	5,500	5,634	5,775	5,916	6,064	6,212	Monthly
			29.48	30.22	30.96	31.73	32.50	33.32	34.13	34.98	35.84	Hourly
5101	ACCOUNTANT II	PEU, Local 1	5,622	5,763	5,903	6,051	6,198	6,353	6,508	6,671	6,833	Monthly
			32.43	33.25	34.06	34.91	35.76	36.65	37.55	38.49	39.42	Hourly
5100	ACCOUNT CLERK-INTERMEDIATE	PEU, Local 1	3,909	4,007	4,104	4,207	4,309	4,417	4,524	4,638	4,752	Monthly
			22.55	23.12	23.68	24.27	24.86	25.48	26.10	26.76	27.41	Hourly
5162	ACCOUNT CLERK-SENIOR	PEU, Local 1	4,300	4,408	4,515	4,628	4,741	4,860	4,978	5,102	5,227	Monthly
			24.81	25.43	26.05	26.70	27.35	28.04	28.72	29.43	30.15	Hourly
5244	ADMINISTRATIVE ANALYST I	PEU, Local 1	5,854	6,001	6,147	6,301	6,454	6,616	6,777	6,946	7,116	Monthly
			33.77	34.62	35.46	36.35	37.23	38.17	39.10	40.07	41.05	Hourly
5020	ADMINISTRATIVE ASSISTANT	PEU, Local 1	4,543	4,657	4,770	4,890	5,009	5,134	5,259	5,391	5,522	Monthly
			26.21	26.87	27.52	28.21	28.90	29.62	30.34	31.10	31.86	Hourly
5040	ADMINISTRATIVE CLERK I	PEU, Local 1	3,277	3,359	3,441	3,527	3,613	3,704	3,794	3,889	3,983	Monthly
			18.91	19.38	19.85	20.35	20.84	21.37	21.89	22.44	22.98	Hourly
5060	ADMINISTRATIVE CLERK II	PEU, Local 1	3,605	3,695	3,785	3,880	3,974	4,074	4,173	4,278	4,382	Monthly
			20.80	21.32	21.84	22.38	22.93	23.50	24.08	24.68	25.28	Hourly
5085	ADMINISTRATIVE CLERK III	PEU, Local 1	3,966	4,065	4,164	4,268	4,372	4,482	4,591	4,706	4,821	Monthly
			22.88	23.45	24.02	24.62	25.22	25.86	26.49	27.15	27.81	Hourly
5090	ANIMAL SERVICES OFFICER I	PEU, Local 1	3,990	4,090	4,189	4,294	4,398	4,508	4,618	4,733	4,849	Monthly
			23.02	23.60	24.17	24.77	25.37	26.01	26.64	27.31	27.97	Hourly
5095	ANIMAL SERVICES OFFICER II	PEU, Local 1	4,373	4,483	4,592	4,707	4,822	4,943	5,063	5,189	5,316	Monthly
			25.23	25.86	26.49	27.16	27.82	28.52	29.21	29.94	30.67	Hourly
5270	BUILDING INSPECTOR I	PEU, Local 1	5,261	5,393	5,524	5,662	5,800	5,945	6,090	6,241	6,395	Monthly
			30.35	31.11	31.87	32.67	33.46	34.30	35.13	36.01	36.89	Hourly
5292	BUILDING INSPECTOR II	PEU, Local 1	6,050	6,201	6,352	6,511	6,670	6,837	7,003	7,178	7,353	Monthly
			34.90	35.78	36.65	37.56	38.48	39.44	40.40	41.41	42.42	Hourly
5062	BUILDING MAINTENANCE WORKER I	PEU, Local 1	4,264	4,371	4,477	4,589	4,701	4,819	4,936	5,059	5,183	Monthly
			24.60	25.22	25.83	26.48	27.12	27.80	28.48	29.19	29.90	Hourly

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JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
5121	BUILDING MAINTENANCE WORKER II	PEU, Local 1	4,661	4,778	4,894	5,017	5,139	5,268	5,396	5,531	5,666	Monthly
			26.89	27.57	28.23	28.94	29.65	30.39	31.13	31.91	32.69	Hourly
5290	CODE ENFORCEMENT OFFICER I	PEU, Local 1	4,889	5,011	5,133	5,262	5,390	5,525	5,659	5,801	5,942	Monthly
			28.21	28.91	29.61	30.36	31.10	31.88	32.65	33.47	34.28	Hourly
5285	CODE ENFORCEMENT OFFICER II	PEU, Local 1	5,377	5,512	5,646	5,787	5,928	6,076	6,224	6,380	6,536	Monthly
			31.02	31.80	32.57	33.39	34.20	35.05	35.91	36.81	37.71	Hourly
5115	COMMUNITY DEVELOPMENT TECH I	PEU, Local 1	4,440	4,551	4,662	4,779	4,895	5,018	5,140	5,268	5,397	Monthly
			25.62	26.26	26.90	27.57	28.24	28.95	29.65	30.39	31.13	Hourly
5144	COMMUNITY DEVELOPMENT TECH II	PEU, Local 1	4,883	5,005	5,127	5,255	5,383	5,518	5,652	5,792	5,934	Monthly
			28.17	28.88	29.58	30.32	31.06	31.83	32.61	33.42	34.24	Hourly
5243	CONSTRUCTION INSPECTOR	PEU, Local 1	5,819	5,965	6,110	6,263	6,415	6,576	6,736	6,903	7,072	Monthly
			33.57	34.41	35.25	36.13	37.01	37.94	38.86	39.83	40.80	Hourly
5050	CUSTODIAN I	PEU, Local 1	3,524	3,612	3,700	3,793	3,885	3,982	4,079	4,181	4,284	Monthly
			20.33	20.84	21.35	21.88	22.41	22.97	23.53	24.12	24.71	Hourly
5082	CUSTODIAN II	PEU, Local 1	3,876	3,973	4,070	4,172	4,273	4,380	4,487	4,599	4,712	Monthly
			22.36	22.92	23.48	24.07	24.65	25.27	25.89	26.53	27.19	Hourly
5081	CUSTODIAN - SENIOR	PEU, Local 1	4,264	4,371	4,477	4,589	4,701	4,819	4,936	5,060	5,183	Monthly
			24.60	25.22	25.83	26.48	27.12	27.80	28.48	29.19	29.90	Hourly
5030	CUSTOMER SERVICES REP I	PEU, Local 1	3,754	3,848	3,942	4,041	4,139	4,243	4,346	4,454	4,564	Monthly
			21.66	22.20	22.74	23.31	23.88	24.48	25.07	25.70	26.33	Hourly
5070	CUSTOMER SERVICES REP II	PEU, Local 1	4,130	4,234	4,337	4,446	4,554	4,668	4,782	4,901	5,020	Monthly
			23.83	24.43	25.02	25.65	26.27	26.93	27.59	28.28	28.96	Hourly
5161	CUSTOMER SERVICES REP.-SENIOR	PEU, Local 1	4,543	4,657	4,770	4,890	5,009	5,134	5,259	5,391	5,522	Monthly
			26.21	26.87	27.52	28.21	28.90	29.62	30.34	31.10	31.86	Hourly
5170	ELECTRICAL TECHNICIAN I	PEU, Local 1	5,852	5,999	6,145	6,299	6,452	6,614	6,775	6,944	7,113	Monthly
			33.76	34.61	35.45	36.34	37.22	38.16	39.09	40.06	41.04	Hourly
5265	ELECTRICAL TECHNICIAN II	PEU, Local 1	6,437	6,598	6,759	6,928	7,097	7,275	7,452	7,638	7,825	Monthly
			37.14	38.07	38.99	39.97	40.94	41.97	42.99	44.07	45.14	Hourly

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JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
5280	ELECTRICAL TECHNICIAN III	PEU, Local 1	7,081	7,258	7,435	7,621	7,807	8,002	8,197	8,402	8,607	Monthly
			40.85	41.87	42.89	43.97	45.04	46.17	47.29	48.47	49.66	Hourly
5300	ENGINEER - ASSISTANT	PEU, Local 1	6,412	6,573	6,733	6,902	7,070	7,247	7,423	7,608	7,793	Monthly
			36.99	37.92	38.84	39.82	40.79	41.81	42.83	43.89	44.96	Hourly
5215	ENGINEERING TECHNICIAN I	PEU, Local 1	4,987	5,112	5,236	5,367	5,498	5,636	5,773	5,916	6,062	Monthly
			28.77	29.49	30.21	30.96	31.72	32.52	33.31	34.13	34.97	Hourly
5250	ENGINEERING TECHNICIAN II	PEU, Local 1	5,391	5,526	5,661	5,803	5,944	6,093	6,241	6,397	6,553	Monthly
			31.10	31.88	32.66	33.48	34.29	35.15	36.01	36.91	37.81	Hourly
5295	ENGINEERING TECHNICIAN III	PEU, Local 1	6,210	6,365	6,520	6,683	6,846	7,017	7,188	7,368	7,547	Monthly
			35.83	36.72	37.62	38.56	39.50	40.48	41.47	42.51	43.54	Hourly
5590	ENVIRONMENTAL COMPLIANCE INSPECTOR	PEU, Local 1	5,770	5,914	6,058	6,210	6,361	6,520	6,679	6,846	7,013	Monthly
			33.29	34.12	34.95	35.83	36.70	37.62	38.53	39.50	40.46	Hourly
	ENVIRONMENTAL COMPLIANCE SPECIALIST	PEU, Local 1	6,452	6,614	6,775	6,945	7,114	7,292	7,470	7,657	7,843	Monthly
			37.22	38.16	39.09	40.07	41.04	42.07	43.10	44.18	45.25	Hourly
5036	FIELD CUSTOMER SERVICE REP I	PEU, Local 1	3,491	3,579	3,666	3,758	3,849	3,945	4,041	4,142	4,243	Monthly
			20.14	20.65	21.15	21.68	22.21	22.76	23.31	23.90	24.48	Hourly
5083	FIELD CUSTOMER SERVICE REP II	PEU, Local 1	3,841	3,937	4,033	4,134	4,235	4,341	4,447	4,558	4,668	Monthly
			22.16	22.71	23.27	23.85	24.43	25.04	25.66	26.30	26.93	Hourly
5219	FLEET MAINTENANCE MECHANIC I	PEU, Local 1	5,143	5,272	5,400	5,535	5,670	5,812	5,953	6,102	6,250	Monthly
			29.67	30.42	31.15	31.93	32.71	33.53	34.34	35.20	36.06	Hourly
5220	FLEET MAINTENANCE MECHANIC II	PEU, Local 1	5,656	5,798	5,939	6,088	6,236	6,392	6,548	6,712	6,875	Monthly
			32.63	33.45	34.26	35.12	35.98	36.88	37.78	38.72	39.67	Hourly
5225	FLEET MAINTENANCE MECHANIC-SENIOR	PEU, Local 1	6,222	6,378	6,533	6,697	6,860	7,032	7,203	7,383	7,563	Monthly
			35.90	36.80	37.69	38.64	39.58	40.57	41.56	42.59	43.63	Hourly
5246	INFORMATION SYSTEMS TECHNICIAN	PEU, Local 1	5,448	5,584	5,720	5,863	6,006	6,156	6,306	6,464	6,622	Monthly
			31.43	32.22	33.00	33.83	34.65	35.52	36.38	37.29	38.20	Hourly
5260	INFORMATION SYSTEMS TECHNICIAN II	PEU, Local 1	5,994	6,144	6,294	6,452	6,609	6,774	6,939	7,111	7,286	Monthly
			34.58	35.45	36.31	37.22	38.13	39.08	40.03	41.03	42.03	Hourly

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JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
5281	INSTRUMENTATION TECHNICIAN I	PEU, Local 1	5,853	6,000	6,146	6,300	6,453	6,615	6,776	6,945	7,114	Monthly
			33.77	34.62	35.46	36.35	37.23	38.16	39.09	40.07	41.04	Hourly
5282	INSTRUMENTATION TECHNICIAN II	PEU, Local 1	6,437	6,598	6,759	6,928	7,097	7,275	7,452	7,638	7,825	Monthly
			37.14	38.07	38.99	39.97	40.94	41.97	42.99	44.07	45.14	Hourly
5283	INSTRUMENTATION TECHNICIAN III	PEU, Local 1	7,081	7,258	7,435	7,621	7,807	8,002	8,197	8,402	8,607	Monthly
			40.85	41.87	42.89	43.97	45.04	46.17	47.29	48.47	49.66	Hourly
5110	KENNEL ATTENDANT I	PEU, Local 1	3,614	3,705	3,795	3,890	3,985	4,085	4,184	4,290	4,393	Monthly
			20.85	21.38	21.89	22.44	22.99	23.57	24.14	24.75	25.35	Hourly
5111	KENNEL ATTENDANT II	PEU, Local 1	3,975	4,075	4,174	4,279	4,383	4,493	4,602	4,717	4,833	Monthly
			22.93	23.51	24.08	24.69	25.29	25.92	26.55	27.21	27.88	Hourly
5530	LABORATORY ANALYST I	PEU, Local 1	5,567	5,706	5,845	5,991	6,137	6,291	6,444	6,606	6,768	Monthly
			32.12	32.92	33.72	34.56	35.41	36.29	37.18	38.11	39.04	Hourly
5581	LABORATORY ANALYST II	PEU, Local 1	6,124	6,277	6,430	6,591	6,751	6,920	7,089	7,266	7,444	Monthly
			35.33	36.21	37.10	38.03	38.95	39.92	40.90	41.92	42.95	Hourly
5064	LABORATORY ASSISTANT	PEU, Local 1	4,842	4,963	5,084	5,211	5,338	5,472	5,605	5,746	5,885	Monthly
			27.93	28.63	29.33	30.06	30.80	31.57	32.34	33.15	33.95	Hourly
5063	PARK MAINTENANCE WORKER I	PEU, Local 1	3,902	4,000	4,097	4,200	4,302	4,410	4,517	4,630	4,743	Monthly
			22.51	23.08	23.64	24.23	24.82	25.44	26.06	26.71	27.36	Hourly
5122	PARK MAINTENANCE WORKER II	PEU, Local 1	4,291	4,399	4,506	4,619	4,731	4,850	4,968	5,092	5,216	Monthly
			24.76	25.38	26.00	26.65	27.29	27.98	28.66	29.38	30.09	Hourly
5200	PARK MAINTENANCE WORKER - SENIOR	PEU, Local 1	4,721	4,839	4,957	5,081	5,205	5,335	5,465	5,602	5,738	Monthly
			27.24	27.92	28.60	29.31	30.03	30.78	31.53	32.32	33.10	Hourly
5245	PLANNER-ASSISTANT	PEU, Local 1	5,742	5,886	6,029	6,180	6,330	6,489	6,647	6,813	6,979	Monthly
			33.13	33.96	34.78	35.65	36.52	37.44	38.35	39.31	40.26	Hourly
5255	PLANS EXAMINER I	PEU, Local 1	5,801	5,946	6,091	6,244	6,396	6,556	6,716	6,884	7,052	Monthly
			33.47	34.30	35.14	36.02	36.90	37.82	38.75	39.72	40.68	Hourly
5256	PLANS EXAMINER II	PEU, Local 1	6,381	6,541	6,700	6,868	7,035	7,211	7,387	7,572	7,757	Monthly
			36.81	37.74	38.65	39.62	40.59	41.60	42.62	43.68	44.75	Hourly

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JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
5140	PLANT MAINTENANCE MECHANIC	PEU, Local 1	5,656	5,798	5,939	6,088	6,236	6,392	6,548	6,712	6,876	Monthly
			32.63	33.45	34.26	35.12	35.98	36.88	37.78	38.72	39.67	Hourly
5221	PLANT MAINTENANCE MECHANIC -SENIOR	PEU, Local 1	6,222	6,378	6,533	6,697	6,860	7,032	7,203	7,383	7,563	Monthly
			35.90	36.80	37.69	38.64	39.58	40.57	41.56	42.59	43.63	Hourly
5061	PUBLIC WORKS MAINTENANCE WORKER I	PEU, Local 1	3,902	4,000	4,097	4,200	4,302	4,410	4,517	4,630	4,743	Monthly
			22.51	23.08	23.64	24.23	24.82	25.44	26.06	26.71	27.36	Hourly
5120	PUBLIC WORKS MAINTENANCE WORKER II	PEU, Local 1	4,291	4,399	4,506	4,619	4,731	4,850	4,968	5,092	5,216	Monthly
			24.76	25.38	26.00	26.65	27.29	27.98	28.66	29.38	30.09	Hourly
5150	PUBLIC WORKS MAINTENANCE WORKER III	PEU, Local 1	4,721	4,839	4,957	5,081	5,205	5,335	5,465	5,602	5,738	Monthly
			27.24	27.92	28.60	29.31	30.03	30.78	31.53	32.32	33.10	Hourly
5145	PUBLIC WORKS PROJECT COORDINATOR	PEU, Local 1	5,391	5,526	5,661	5,803	5,944	6,093	6,241	6,397	6,553	Monthly
			31.10	31.88	32.66	33.48	34.29	35.15	36.01	36.91	37.81	Hourly
5080	RECREATION COORDINATOR	PEU, Local 1	4,280	4,387	4,494	4,607	4,719	4,837	4,955	5,078	5,202	Monthly
			24.69	25.31	25.93	26.58	27.23	27.91	28.59	29.30	30.01	Hourly
5117	REGISTERED VETERINARY TECH	PEU, Local 1	4,373	4,483	4,592	4,707	4,822	4,943	5,063	5,189	5,316	Monthly
			25.23	25.86	26.49	27.16	27.82	28.52	29.21	29.94	30.67	Hourly
5540	QUALITY ASSURANCE OFFICER	PEU, Local 1	6,583	6,748	6,912	7,085	7,258	7,440	7,621	7,811	8,002	Monthly
			37.98	38.93	39.88	40.88	41.87	42.92	43.97	45.06	46.16	Hourly
5058	UTILITIES TREATMENT PLANT MAINTENANCE WORKER I	PEU, Local 1	3,902	4,000	4,097	4,200	4,302	4,410	4,517	4,630	4,743	Monthly
			22.51	23.08	23.64	24.23	24.82	25.44	26.06	26.71	27.36	Hourly
5118	UTILITIES TREATMENT PLANT MAINTENANCE WORKER II	PEU, Local 1	4,291	4,399	4,506	4,619	4,731	4,850	4,968	5,092	5,216	Monthly
			24.76	25.38	26.00	26.65	27.29	27.98	28.66	29.38	30.09	Hourly
5236	WASTEWATER COLLECTIONS MAINTENANCE WORKER I	PEU, Local 1	4,271	4,378	4,485	4,597	4,709	4,827	4,944	5,068	5,191	Monthly
			24.64	25.26	25.88	26.52	27.17	27.85	28.52	29.24	29.95	Hourly
5237	WASTEWATER COLLECTIONS MAINTENANCE WORKER II	PEU, Local 1	5,125	5,253	5,381	5,516	5,650	5,791	5,932	6,079	6,229	Monthly
			29.57	30.31	31.04	31.82	32.60	33.41	34.22	35.07	35.94	Hourly
5238	WASTEWATER COLLECTIONS MAINTENANCE WORKER III	PEU, Local 1	5,770	5,914	6,058	6,210	6,361	6,520	6,679	6,846	7,013	Monthly
			33.29	34.12	34.95	35.83	36.70	37.62	38.53	39.50	40.46	Hourly

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE MAY 16, 2026

Public Employees Union, Local #1

EFFECTIVE 06/09/18 - NEW HIRES ONLY

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	6	7	8	9	
5166	WASTEWATER TREATMENT FACILITY OP. TRAINEE/I	PEU, Local 1	6,198	6,353	6,508	6,671	6,833	7,004	7,175	7,355	7,535	Monthly
			35.76	36.65	37.55	38.49	39.42	40.41	41.39	42.43	43.47	Hourly
5235	WASTEWATER TREATMENT FACILITY OP. II	PEU, Local 1	6,820	6,991	7,161	7,340	7,519	7,707	7,895	8,092	8,288	Monthly
			39.35	40.33	41.31	42.35	43.38	44.46	45.55	46.68	47.82	Hourly
5293	WASTEWATER TREATMENT FACILITY OP. III	PEU, Local 1	7,501	7,689	7,876	8,073	8,270	8,477	8,683	8,900	9,118	Monthly
			43.28	44.36	45.44	46.58	47.71	48.91	50.09	51.35	52.60	Hourly
5284	WATER DISTRIBUTION OPERATOR I	PEU, Local 1	5,142	5,271	5,399	5,534	5,669	5,811	5,952	6,101	6,249	Monthly
			29.67	30.41	31.15	31.93	32.71	33.53	34.34	35.20	36.05	Hourly
5286	WATER DISTRIBUTION OPERATOR II	PEU, Local 1	5,655	5,797	5,938	6,087	6,235	6,391	6,547	6,710	6,874	Monthly
			32.63	33.44	34.26	35.12	35.97	36.87	37.77	38.71	39.66	Hourly
5287	WATER DISTRIBUTION OPERATOR III	PEU, Local 1	6,504	6,667	6,829	7,000	7,170	7,350	7,529	7,717	7,905	Monthly
			37.52	38.46	39.40	40.38	41.37	42.40	43.44	44.52	45.60	Hourly
5131	WATER TREATMENT PLANT OPER.TRAINEE	PEU, Local 1	5,634	5,775	5,916	6,064	6,212	6,368	6,523	6,686	6,850	Monthly
			32.50	33.32	34.13	34.98	35.84	36.74	37.63	38.57	39.52	Hourly
5180	WATER TREATMENT PLANT OPERATOR II	PEU, Local 1	6,198	6,353	6,508	6,671	6,833	7,004	7,175	7,355	7,535	Monthly
			35.76	36.65	37.55	38.49	39.42	40.41	41.39	42.43	43.47	Hourly
5230	WATER TREATMENT PLANT OPERATOR III	PEU, Local 1	6,819	6,990	7,160	7,339	7,518	7,706	7,894	8,091	8,288	Monthly
			39.34	40.33	41.31	42.34	43.37	44.46	45.54	46.68	47.82	Hourly
5291	WATER TREATMENT PLANT OPERATOR IV	PEU, Local 1	7,501	7,689	7,876	8,073	8,270	8,477	8,683	8,900	9,118	Monthly
			43.28	44.36	45.44	46.58	47.71	48.91	50.09	51.35	52.60	Hourly

Pensionable Compensation for New Members (PEPRA)

MOU Article 13.1 - Bilingual Pay
Employees in classifications who are proficient in speaking a foreign language will receive Bilingual Pay in the amount of 2.25% of the base rate of pay.

MOU Article 17 - Certificate Pay
Employees in the Parks Division or in the Utilities Treatment Plant Maintenance Workers who possess a Qualified Pesticide Applicator's Certificate will receive 1.5% of their base rate of pay.

Employees in the Parks Division who possess a Pool Operations Certificate will receive 1.5% of their base rate of pay

Employees in the Community Services Department who
possess a Certified Playground Safety Inspector Certificate
will receive 1.5% of their base rate of pay

Employees in the following divisions: Water Distribution, Wastewater Collections, Utilities, Fleet, Streets,
Parks Maintenance, and Recreation who drive the bus and possess a valid California Driver's License with a passenger
endorsement receive Special Class Driver's License Pay of one and a half percent (1.5%) of their base rate of pay

MOU Article 18 - Shift Differential
A shift differential of five percent (5%) of their base rate of pay shall be paid to plant operators who are assigned to
work from 7:00 p.m. to 7:00 a.m.

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE DECEMBER 27, 2025

Part-Time, Extra Help, Limited Term and At-Will Contract Employees

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5
0110*	Intern Worker		18.68	19.61	20.59	21.62	22.70
4002	Park Maintenance Worker (Temp)		22.23	23.35	24.51	25.74	27.02
4000	Public Works Maintenance Worker (Temp)		22.23	23.35	24.51	25.74	27.02
4125	Water/Wastewater Operator-in-Training		22.23	23.35	24.51	25.74	27.02
2030*	Reserve Police Officer (Level I) - see notes 1 & 2		20.83				
2025*	Reserve Police Officer (Level Ia) - see notes 1,2&3		34.74	36.48	38.30	40.22	42.23
2020*	Reserve Police Officer (Level II) - see notes 1 & 2		16.90				
0300*	Police Cadet		19.90				
0200*	Recreation Worker		16.90		TO		50.00
	(Sub Classifications)						
	* Recreation Leader I		16.90	17.39	18.26		
	* Recreation Leader II		18.26	19.17	20.13		
	* Recreation Leader III		20.13	21.14	22.20		
	* Recreation Specialist I		16.90		TO		25.00
	* Recreation Specialist II		25.00		TO		50.00
	* Lifeguard/Instructor I		18.26	19.17	20.13	21.14	22.20
	* Lifeguard/Instructor II		22.20	23.31	24.48	25.70	26.99
4116	Veterinary Assistant		20.60	21.62	22.70	23.84	25.03
3410**	Fire Recruit		20.40				
3310	Fire Recruit - 40 hour work week		28.56				

1/ Reserves must serve a minimum of 16 hours per month reserve service.
2/ City purchases safety equipment and uniforms (except for regular employees who receive a uniform allowance). Shirts, ties, hats, and badge only are purchased.
3/ The Reserve Police Officer would only receive the higher pay after he/she has completed the Field Training Program, has already worked his/her mandatory sixteen hours per month, and is covering a shift or partial shift for a regular full-time Officer.
4/ Temporary Employees who are proficient in speaking a foreign language will receive Bilingual Pay in the amount of 2.25% of base pay
* Indicates classifications which are not eligible for overtime compensation and are exempt from the Fair Labor Standards Act (FLSA).
** Indicates classifications whose hourly rates are computed on the basis of an average 56 hour duty week.
Effective date for minimum wage increases are based on the work date, not the pay date.

EMPLOYEE BARGAINING GROUPS
CON - Confidential
PEU, Local 1 - General Employees
DH - Department Head
MM - Middle Manager
FM - Fire Management
FLM - 1st Level Manager
PD - Police Department
FIRE - Fire Department
PFLM - Police First Level Managers
PMM - Police Mid Managers

CITY OF YUBA CITY
SALARY SCHEDULE AND GENERAL COMPENSATION PLAN
EFFECTIVE JANUARY 1, 2022

Elected Officials

JCN	CLASSIFICATION	Bargaining Group	SALARY STEPS 1	2	3	4	5	
0011	City Council						7,200	Yearly
							600.00	Monthly
0800	City Treasurer						900	Yearly
							75.00	Monthly
0890	City Clerk						900	Yearly
							75.00	Monthly

CITY OF YUBA CITY
STAFF REPORT

Date: June 16, 2026
To: Honorable Mayor & Members of the City Council;
From: Administration Department
Presentation By: Ciara Wakefield, City Clerk

Summary

Subject: Community Sponsorship Request - Walk to End Alzheimer's

Recommendation: Consider the sponsorship request from the Alzheimer's Association, and if approved: Adopt a Resolution approving the sponsorship request in the amount of $2,500 for the Walk to End Alzheimer's in Yuba City on September 5, 2026

Fiscal Impact: Monetary sponsorship of $2,500.00. Account(s) to be determined

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Purpose:

City sponsorships reflect support of specific programs or events by an organization. The intent is that the public will receive some intrinsic cultural, economic, educational, or entertainment value from the program or event.

Background:

On January 18, 2022, the City Council adopted an Amended Community Sponsorship Policy outlining factors for approval, including resources available, alignment with Council goals, community benefit, risk, and insurance requirements.

On October 1, 2024, Council directed staff to update the policy. Amendments adopted January 21, 2025, added a one-year eligibility restriction, clarified quarterly review deadlines, and aligned applications with the City's fiscal schedule.

In March 2026, a sponsorship request was received from:

The Alzheimer's Association

The Alzheimer's Association is the leading voluntary health organization dedicated to accelerating global research, driving risk reduction and early detection, and maximizing quality care and support for those facing Alzheimer's and other dementias. They provide a 24/7 helpline, support groups, and advocate for research funding.

The annual Walk to End Alzheimer's is the world's largest fundraiser for Alzheimer's care, support and research. In its 14th year, the Yuba City event inspires participants of all ages and abilities from across the region to join the fight against the disease. This year, the local Walk to End Alzheimer's will take place September 4, 2026 and will commence at the Town Square Fountain on Plumas Street.

On June 16, 2026, the proposed FY 26-27 Operating Budget will be presented for adoption. The budget proposal includes reducing the funding for Community Events (4220-66015) and Community Contributions (4220-66010) to zero in the new fiscal year.

Analysis:

The Community Sponsorship Policy states, "The budget for the Community Sponsorship Program shall be established by City Council each year during the annual budget process," and "applications will be presented to Council quarterly on a first-come, first-served basis."

The Walk to End Alzheimer's will take place September 5, 2026 which occurs in FY 26-27. The proposed FY 26-27 budget eliminates Community Contributions and Community Events funding in order to maintain other critical City functions.

If the Council would like to accommodate this request in FY 25-26, staff recommends utilizing the remaining $1,700 in the Community Events account (4220-66015, FY 25-26) AND $800 from the Community Contributions account (4220-66010 FY 25-26) to fund the balance of this request. If approved, this would zero out the Community Events account in FY 25-26 and leave the Community Contributions account with a remaining balance of $6,400 for FY 25-26. The City has received no additional Community Sponsorship requests for FY 25-26.

	Community Contributions (4220-66010)	Amount	Community Events (4220-66015)
	Annual Budget: $10,000 ($2,500 Quarterly)	$10,000	Annual Budget: $10,000 ($2,500 Quarterly)
Q1 - July - Sept 2025			Casa De Esperanza
Q2 - Oct - Dec 2025	YCHS Baseball	-$1,000	Sutter County Museum
			YSEDC
Q3 - Jan - Mar 2026	Girls on the Run	-$1,800	Hayne Avenue Parade
Q4 - April - June 2026	**Request: Walk to End Alzheimer's**	**-$800**	Playzeum
			Request: Walk to End Alzheimer's
Remaining Balance		**$6,400**	

Funding the proposed sponsorship would demonstrate City's commitment to supporting the health, wellness, and quality of life of residents and families impacted by Alzheimer's disease and other forms of dementia. City participation also fosters a sense of compassion and unity by encouraging residents, businesses, and organizations to come together for a meaningful community cause.

Fiscal Impact:

Monetary sponsorship of $2,500.00. Account(s) to be determined.

Alternatives:

1. Authorize a monetary sponsorship in a different amount.
2. Do not authorize a monetary sponsorship.

Recommendation:

Consider the sponsorship request from the Alzheimer's Association, and if approved: Adopt a Resolution approving the sponsorship request in the amount of $2,500 for the Walk to End Alzheimer's in Yuba City on September 5, 2026.

Attachments:

1. RESOLUTION - Community Sponsorship Request (Alzheimer's)
2. Walk to End Alzheimer's 06.16.26

Prepared By:
Ciara Wakefield
City Clerk

Submitted By:
Robert Bendorf
City Manager

ATTACHMENT 1

RESOLUTION NO._____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUBA CITY APPROVING THE ALZHEIMER'S ASSOCIATION'S COMMUNITY SPONSORSHIP REQUEST FOR THE WALK TO END ALZHEIMER'S EVENT ON SEPTEMBER 5, 2026

WHEREAS, The Alzheimer's Association is the leading voluntary health organization dedicated to accelerating global research, driving risk reduction and early detection, and maximizing quality care and support for those facing Alzheimer's and other dementias; and

WHEREAS, The Alzheimer's Association, a 501(c)(3) non-profit organization, is requesting a monetary sponsorship for their upcoming Walk to End Alzheimer's event; and

NOW, THEREFORE, the City Council of the City of Yuba City ("City Council") does hereby resolve as follows:

Section 1. The City Council finds the above recitals true and correct; and

Section 2. The City Council finds that sponsorship of this event serves a public purpose by supporting the health, wellness, and quality of life of residents and families impacted by Alzheimer's disease and other forms of dementia, while also promoting community engagement; and

Section 3. The City Council finds that the Alzheimer's Association request meets the criteria for consideration of such request because the applicant is a nonprofit with financial hardships that services an important public purpose and approves the monetary sponsorship request in the amount of $2,500.00 for the Walk to End Alzheimer's event on September 5, 2026.

Section 4. This Resolution shall take effect immediately and that the City Clerk shall certify the adoption of this Resolution.

The foregoing Resolution of the City Council of the City of Yuba City is duly introduced, PASSED AND ADOPTED at a regular meeting thereof held on this 16th day of June, 2026 by the following vote:

AYES:
NOES:
ABSENT:

_____
Marc Boomgaarden, Mayor

ATTEST:

_____
Ciara Wakefield, City Clerk

APPROVED AS TO FORM
COUNSEL FOR YUBA CITY

_____
Shannon L. Chaffin, City Attorney
Aleshire & Wynder, LLP

ATTACHMENT 2

COMMUNITY SPONSORSHIP APPLICATION FORM

Name of Organization: Alzheimer's Association Non-Profit ID/ 501 C#: 13-3039601

Address: 2290 N. First Street, Suite 212 City/State/Zip: San Jose,Ca 95130

Contact Person: Elicia Stewart Phone: 5306052280 Email: estewart@alz.org

Organization Purpose/Mission: Walk to End Alzheimer's

Type of Organization:

- ■ Non-Profit (located or primarily serves residents within the City of Yuba City
- ☐ Educational Institution
- ☐ Local business (located within City of Yuba City city limits)

Type of Event:

■ Local Celebration	☐Athletic	☐Cultural	☐Educational
■ Fundraiser	☐Entertainment	☐Other	

Program or Event Name: Yuba City Walk to End Alzheimer's

Event Location: Plumas Fountain at Town Square with our 1 mile route going through downtown district/ Tower Plaza

Event Date/Time: Saturday, September 5, 2026

Expected Number of Participants: 400+

Open to the Public? ■ Yes ☐ No

Please explain how your program or event meets one or more of the sponsorship criteria below:

- Boosts the local Yuba City economy: In it's 14th year here in Yuba City, this free event brings people from Yuba City, Marysville as far as Grass Valley, Chico and Reno to honor and support the cause of finding a cure for Alzheimer's. As our 1 mile sponsor, this walk highlights our downtown business area, our beautiful Tower Plaza and our new signage-giving participants and visitors the best visit/tour of what Yuba City has to offer.
- Provides an opportunity to help build community, foster a sense of pride within our community, and engage our community: Being a local myself, I am so proud of Yuba City and the beautification projects that have enhanced not only the feel of Plumas Street but along Bridge Street which is a part of our 3mile route. Participants of all ages will be able to see and feel the support of our City and take pride in it as they walk up and Down the DownTown District, pass the Tower Plaza back to the Fountain which happens to be 1 mile!
- Contributes positively to the recognition and image of the City of Yuba City: Last year was the 1st year in recent years that the Walk was hosted at the Fountain- everyone loved the sense of community and took pride in how beautiful and "walk" friendly the route was. Erin Heft, a KCRA reporter, reported live during our last years walk and commented on how beautiful the Walk route was link to a clip here. https://www.kcra.com/article/walk-to-end-alzheimers-yuba-city-2025/66001329

Type of Sponsorship Requested:

☐ In-kind services – Amount requested: _____

Provide a description of the in-kind services requested:_____

_____

_____

☐ Facility Waiver – Amount requested: _____

☒ Monetary Funding – Amount requested:$2500.00

☐ Fundraiser Gift Basket – Amount requested:_____

Other Considerations:

☑ I understand that if the City agrees to sponsor the event, I will acknowledge the sponsorship on all printed information or advertising related to the event using a message approved by the City and provide any written marketing material to the City before distribution of event materials.

☑ If the City agrees to sponsor the event, I understand that appropriate ADA accessibility and other permit requirements will be provided.

☒ I understand that sponsorship is optional, and the City can deny this sponsorship application.

Signature of Applicant Elicia Stewart Date 3/14/2026

Print Name of Applicant Elicia Stewart

WALK TO END ALZHEIMER'S

ALZHEIMER'S ASSOCIATION

SPONSORSHIP OPPORTUNITIES



Be part of the world's largest event to fight Alzheimer's.

Walk to End Alzheimer's® - Yuba City

Saturday, September 5, 2026
Plumas Fountain at Town Square

Contact: Elicia Stewart| 530.605.2280
yubacitywalk@alz.org

ALZHEIMER'S DISEASE IS A GLOBAL CRISIS WITH SIGNIFICANT LOCAL IMPACT.

Alzheimer's is more than just memory loss — it is a progressive and fatal disease. Currently, over 7 million Americans are living with Alzheimer's and nearly 12 million provide unpaid care for them. Locally, the disease continues to devastate our families, finances and future.

In California, there are:

- » 719,700 people living with Alzheimer's.
- » 1,373,000 people who care for them.
- » In 2022, these caregivers provided 1.86 billion hours of unpaid care valued at $44.27 billion.



ALZHEIMER'S AFFECTS US AT HOME AND AT WORK.

6in10 caregivers were employedinthepast year.

These individuals worked anaverageof **35 hours** per week while caregiving.



18% of caregivers went from full-time to part-time orcut back hours.



Nine percent ofcaregivers gaveup working entirely.

57% OFEMPLOYED CAREGIVERSHADTOGO IN TOWORKLATE,LEAVE EARLY ORTAKETIMEOFFDUE TO CAREGIVING DEMANDS.



Six percent retired early.



alz.org/yubacitywalk

JOIN US AS A LEADER IN THE FIGHT.

The Alzheimer's Association® addresses the global dementia crisis by providing education and support to the millions who face dementia every day, while advancing critical research toward methods of treatment, prevention and, ultimately, a cure.

Held annually in more than 600 communities nationwide, the Alzheimer's Association Walk to End Alzheimer's is the world's largest event to raise awareness and funds for Alzheimer's care, support and research. By sponsoring the event, your company can make a diff erence for families — including your employees and customers — facing the disease now and in the future.

Who are our national supporters?

Edward Jones
Biogen
Eisai





Who are our local sponsors?

Adventist Health and Rideout
CBS13/GoodDay
Comfort Keepers
Frank M Booth
Hilbers Inc
Interim Healthcare
Kuba Radio Station
Magnolia Modern Dentistry
New Wave Hearing Aids
NorCal Diesel
Pacific Gas and Electric Company
River Valley Community Bank
Summerfield Senior Living
Sunsweet Growers
Sutter Health Valley Area
United Healthcare
Univision
Wheeler Auto Center
Yuba Water Agency

FOUR REASONS TO SPONSOR WALK TO END ALZHEIMER'S:

Make an impact.
Joinindividuals,teams and other companies across the country who raise millions of dollars to help the Association provide education and support while advancing critical research.

Advance your corporate social responsibility.
Align your core valuesand visibility in the community by supporting a cause that aff ects numerous families locally and across the country.

Gain brand visibility.
Our Walk participants have buying power: 68% are female, 60% are between the ages of 35 and 64 and 77% are college-educated.

Improve employee engagement.

Your involvement in Walkto End Alzheimer's demonstrates your commitment to a cause that impacts them at home and work.

alz.org/yubacitywalk

Future Agenda Items

- Councilmember Cole
- Councilmember Kirchner
- Councilmember Shaw
- Vice-Mayor Pasquale
- Mayor Boomgaarden

Reports and Communications

The following reports and communication items are provided for the Council's information. No action can be taken on items under this section unless the Council agrees to include it on a subsequent agenda

City Manager's Report

Reports and Communications

The following reports and communication items are provided for the Council's information. No action can be taken on items under this section unless the Council agrees to include it on a subsequent agenda

City Council Reports

- Councilmember Cole
- Councilmember Kirchner
- Councilmember Shaw
- Vice-Mayor Pasquale
- Mayor Boomgaarden

Adjournment