Economic & Planning Systems, Inc.
The Economics of Land Use

OLIVEHURST PUBLIC UTILITY DISTRICT

WASTEWATER CAPACITY CHARGE NEXUS STUDY

FINAL REPORT

Prepared for:
Olivehurst Public Utility District

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October 14, 2026

EPS #222013

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1. Introduction and Summary of Findings

Overview

The Olivehurst Public Utility District (OPUD or District) is a multi-service special district in southern Yuba County, California. Among other municipal services, OPUD provides wastewater collection, transmission, treatment, and disposal service to the community of Olivehurst, the Plumas Lake area, and adjacent unincorporated territory within its service area. The District owns and operates the Olivehurst wastewater treatment plant (WWTP or Plant) that serves this area, an activated sludge facility with tertiary filtration and ultraviolet disinfection that is currently rated to treat up to 3.0 million gallons per day (mgd) of average dry weather flow ("ADWF" or "flow").

OPUD retained Economic & Planning Systems, Inc. (EPS) to prepare this Wastewater Capacity Fee Nexus Study (Nexus Study) to establish an updated wastewater capacity fee (capacity fee) applicable to new development connecting to the District's wastewater system. Jacobs Engineering Group (Jacobs) prepared the engineering analysis of existing Plant capacity, the capital improvements required to expand that capacity, and the associated cost estimates on which the charge calculated in this Nexus Study is based.

The District's existing wastewater capacity charge was most recently adjusted for construction cost inflation effective March 1, 2026, at which time it totaled $6,962 per equivalent dwelling unit (EDU). That charge has been escalated annually for inflation, but it has not been comprehensively recalculated to reflect the District's current capital improvement program (the cost of the planned expansion of the WWTP from 3.0 mgd to 5.0 mgd ADWF) or the cost of existing Plant capacity that is held in reserve for future users. This Nexus Study provides that comprehensive update.

The planned Plant expansion is being advanced in coordination with the regional wastewater effort in southern Yuba County, under which wastewater generated in the City of Wheatland (Wheatland) will be conveyed to, treated at, and disposed of through the OPUD WWTP. Flow from Wheatland is accounted for in the analysis of existing Plant utilization presented in **Chapter 2**. OPUD anticipates initiating service to Wheatland between July 1, 2029, and December 31, 2029.

This Nexus Study allocates two categories of wastewater treatment facility cost to new development. The first is the cost of the planned capital improvements that will expand the Plant from 3.0 mgd to 5.0 mgd ADWF. The second is new development's share of the value of the treatment capacity that already exists at the Plant but is not yet in use—the 1.25 mgd increment between the 1.75 mgd of capacity utilized today and the Plant's 3.0 mgd rating—which new development will occupy as it connects and before the expanded capacity is required. Though the existing Plant is rated for

3.0 mgd ADWF, it currently does not have operational capacity to treat the full 3.0 mgd. To accommodate future users of the existing Plant (before the expansion from 3.0 to 5.0 mgd), OPUD has initiated a new capital improvement project under the name of Contract 3 improvements (Contract 3), a $25.2 million project to add capacity to the existing plant for future users. New connections will pay for their proportionate share of capacity created by Contract 3 improvements (as detailed in **Chapters 2 and 3**) as well as the cost to expand the facility to treat 5.0 mgd. Both of these major improvements are imperative to accommodate new users. All cost estimates and charges presented in this report are in constant 2026 dollars.

Both categories of cost are recovered through a combined buy-in and incremental-cost approach: new development buys into the existing system on the same per-EDU basis on which it funds the new capacity constructed to serve it.

Purpose

The purpose of this Nexus Study is to establish the legally required nexus (reasonable relationship) between new development that will connect to the OPUD wastewater system and the wastewater treatment facilities required to serve that new development. With that nexus established, this Study calculates a capacity charge that recovers from new development its proportionate share of (1) the cost of new facilities and (2) the value of existing facilities and improvements that new development will benefit from.

The capacity charge established in this Nexus Study comprises two components:

- **Capacity.** Recovers new development's share of the cost of the capital improvements required to improve existing facilities to 3.0 mgd and to expand WWTP treatment capacity from 3.0 mgd to 5.0 mgd ADWF.
- **Capacity Charge Administration.** Funds the District's cost of administering the capacity charge program, calculated as 2 percent of the capacity component.

Table 1 summarizes the proposed wastewater capacity charge for residential uses. Single-family units and multifamily units with three or more bedrooms are charged fees for one Equivalent Dwelling Unit (EDU), while multifamily units with two or fewer bedrooms are charged for 0.75 EDU to reflect lower sewage generation from units with fewer occupants and fixtures.

OPUD will assess nonresidential applicants on a project-by-project basis and charge based on projects' estimated generation of wastewater flow, Biochemical Oxygen Demand (BOD), and Total Suspended Solids (TSS). A project's capacity charge obligation is expressed in EDUs, determined by the most critical of those three loading factors (the factor that equates to the greatest number of EDUs). More detail on this process is presented in **Chapter 4,** beginning on **Page 17.**

Table 1. Proposed Wastewater Capacity Charge Summary

Residential Land Use	Capacity Charge	Administration	Total Charge
	See Table 9	*2% of Capacity Charge*	
Single-Family Residential and Multifamily with 3+ Bedrooms [1]	$8,465	$169	**$8,635**
Multifamily Residential with Fewer Than 3 Bedrooms [1]	$6,349	$127	**$6,476**
Nonresidential capacity charges are determined on a project-by-project basis. See Footnote 2.			

Source: OPUD; Jacobs; EPS.

[1] Multifamily units with two bedrooms or fewer are charged the multifamily rate (0.75 EDU). Multifamily units with three or more bedrooms are charged the single-family rate (1.0 EDU).

[2] Nonresidential capacity charges are calculated on a project-by-project basis based on projected wastewater flow, TSS, and BOD generation compared to one EDU. See Table 8 for the per-EDU flow, BOD, and TSS generation factors. The most critical of these factors (the factor that equates to the most EDUs) is the basis for the amount of EDUs for which a nonresidential project will be charged. **Appendix B** contains illustrative example nonresidential capacity charge calculatior

Table 2. Comparison of Current and Proposed Capacity Charge per EDU

Capacity Charge per EDU			
Existing	Proposed	Change	Percent Change
$6,962	$8,635	$1,673	24.0%

Source: OPUD; EPS.

Note: *Capacity charges include administration component.*

The proposed capacity charge is 24 percent higher than the District's current capacity charge per EDU. The proposed capacity charge is based on the best available information on Plant capacity, capital improvement costs, and wastewater generation factors at the time of preparation. The chapters that follow detail the unit of demand used to allocate costs, the capital improvements and their costs, the cost allocation methodology, the required nexus findings, and the procedures to implement and administer the capacity charge program.

Nexus Study Requirements

California Government Code Section 66013

Sewer connection fees and capacity charges imposed by a local agency are governed by California Government Code (CGC) Section 66013. Section 66013(a) provides that such fees and charges "shall not exceed the estimated reasonable cost of providing the service" unless approved by a two-thirds vote of the electorate. Section 66013(b)(3) defines a "capacity charge" as "a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged."

The charge established in this Nexus Study is a capacity charge within the meaning of Section 66013(b)(3), and both categories of facility cost identified in that definition are represented in it. The charge recovers the cost of new public facilities to be constructed in the future that are of proportional benefit to the new development being charged (expansion from 3.0 mgd to 5.0 mgd). It also recovers a proportionate share of the value of the unused capacity in the existing Plant, which is a public facility in existence at the time the charge is imposed (new development's share of the Plant's replacement cost less depreciation, plus Contract 3 improvements). These requirements are detailed in **Chapter 5**.

California Government Code Section 66000

The nexus requirements applicable to development impact fees generally were established under Assembly Bill (AB) 1600 legislation, as codified by the Mitigation Fee Act (the Act; CGC Section 66000 et seq.). The Act sets forth the procedural requirements for establishing and collecting development impact fees and requires a local agency imposing a fee or charge as a condition of approval of a development project to determine that a reasonable relationship exists between the fee or charge and the development on which it is imposed. Specifically, each local agency imposing a fee or charge must:

- Identify the purpose of the fee or charge.
- Identify how the fee or charge is to be used.
- Determine how a reasonable relationship exists between the fee or charge's use and the type of development project on which the fee or charge is imposed.
- Determine how a reasonable relationship exists between the need for the public facility and the type of development project on which the fee or charge is imposed.
- Determine how a reasonable relationship exists between the amount of the fee or charge and the cost of the public facility, or portion of the public facility, attributable to the development on which the fee or charge is imposed.

Although sewer connection fees and capacity charges are separately addressed under CGC Section 66013, this Nexus Study makes each of the findings listed above so that the capacity charge is supported by an explicit demonstration of the reasonable relationship between the charge, the facilities it funds, and the development on which it is imposed. **Chapter 5** details these findings.

Assembly Bill 602

In 2021, AB 602 amended the Act by adding a "standards and practices" section, codified as CGC Section 66016.5. Among its provisions, Section 66016.5(a)(5)(A) provides that a nexus study "shall calculate a fee imposed on a housing development project proportionately to the square footage of proposed units of the development." Section 66016.5(a)(6) requires large jurisdictions to adopt a capital improvement plan as part of the nexus study, and Section 66016.5(a)(8) requires that impact fee nexus studies be updated at least every eight years.

Section 66016.5(b) provides that "[t]his section does not apply to any fees or charges pursuant to Section 66013." Because the capacity charge established in this Nexus Study is a capacity charge imposed under Section 66013, Section 66016.5 does not apply to it, and neither the square-footage proportionality requirement of Section 66016.5(a)(5)(A), the capital improvement plan requirement of Section 66016.5(a)(6), nor the periodic update requirement of Section 66016.5(a)(8) is applicable. No alternative findings under Section 66016.5(a)(5)(B) are required.

Notwithstanding that exemption, and consistent with the standards Section 66016.5 establishes for impact fee nexus studies generally, the residential capacity charges established in this Nexus Study are calculated by unit type—single-family and multifamily—based on the average wastewater flow generated by each unit type; the capital improvement program that forms the basis of the facilities component is presented in **Chapter 3**.

Accessory Dwelling Units and Junior Accessory Dwelling Units

The capacity charge applies to accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs) only as permitted by California Government Code Section 66311.5, which governs connection fees and capacity charges for ADUs and JADUs. The impact-fee size thresholds of Government Code Section 66311.5(c) (and former Section 65852.2) do not govern the capacity charge, because an impact fee for purposes of those provisions does not include a connection fee or capacity charge. OPUD will apply the following rules:

1. **ADU or JADU not treated as a new residential use.** Except where an ADU or JADU is constructed together with a new single-family dwelling, OPUD will not treat an ADU or JADU as a new residential use for purposes of calculating the wastewater capacity charge, and no capacity charge is imposed on the ADU or JADU on that basis. Where an ADU or JADU is constructed together with a new single-family dwelling, the primary dwelling is charged as a single-family unit (1.0 EDU) and the ADU or JADU is charged as provided in paragraph 3.
2. **Statutorily protected ADUs and JADUs.** OPUD will not require a new or separate utility connection, or impose any related connection fee or capacity charge, on an ADU or JADU described in Government Code

Section 66323(a)(1), unless the unit is constructed with a new single-family dwelling or upon the separate conveyance of the ADU pursuant to Government Code Section 66342.

3. **Other ADUs and JADUs — proportionate charge.** For an ADU or JADU that is not described in Government Code Section 66323(a)(1) and for which OPUD requires a new or separate utility connection, the capacity charge is proportionate to the burden the unit places on OPUD's wastewater treatment facilities. Consistent with Government Code Section 66311.5(e), OPUD will measure that burden on the basis of the number of the unit's drainage fixture units (DFU), as defined in the Uniform Plumbing Code, expressed as a fractional EDU relative to the loading characteristics of one EDU established in **Chapter 2** and **Table 8**. The resulting capacity charge for the ADU or JADU equals that fractional EDU multiplied by the capacity charge per EDU, plus the administration component. In no event will the capacity charge for an ADU or JADU exceed the reasonable cost of providing service.

   The District applies an EDU factor of up to 1.0 EDU to each chargeable ADU, derived from the ratio of a typical ADU's **DFU count** to that of a single-family dwelling unit, subject to adjustment where a particular ADU's **DFU count** differs materially from that assumption.

Capacity Charge Implementation and Administration

Implementation

Chapter 6 details the process and requirements for adopting the updated capacity charge. The capacity charge must be adopted by the OPUD Board of Directors and, consistent with CGC Section 66017, will become effective 60 days following final action on its adoption. Adoption requires the Board to follow the procedures set forth in CGC Sections 66016 through 66019, including holding a public hearing with at least 14 days' notice, making the data on which the capacity charge is based—including this Nexus Study and the material referenced in it—available to the public at least 10 days before the hearing, and providing mailed notice at least 14 days before the hearing to any person who has filed a written request for such notice.

The capacity charge established by this Nexus Study is independent of and separate from any other OPUD, Yuba County, or other agency fee or charge that may apply to development within the District's service area, including OPUD's monthly sewer service rates.

Administration

OPUD will administer the capacity charge program. The program includes a capacity charge administration component equal to two (2) percent of the capacity charge. The charge administration component must be paid in cash to provide the District with the funding needed to administer the program; charge credits may be

available, as detailed in **Chapter 6**. Administration of the capacity charge program will include the following major tasks:

- Tracking all capacity charge payments and the assignment of charge credits and reimbursements for improvements constructed privately by developers.
- Tracking the progress of construction contracts for capital improvements funded by the capacity charge.
- Performing annual capacity charge adjustments to account for inflation in the cost of wastewater treatment facilities.
- Performing project-specific analysis for nonresidential projects to assess capacity charges appropriate to each project's impact on OPUD's wastewater treatment facilities, as is detailed in **Chapter 4**.
- Conducting periodic reviews of Plant capacity, facility requirements, improvement costs, funding sources, and cost allocation methodology, and making the necessary adjustments to the capacity charge program.
- Preparing the annual and five-year reports on the status of the capacity charge program required by CGC Sections 66006, 66001, and 66013.

Key Supporting Documents

The following key documents prepared by or for OPUD were relied upon in this analysis and used in developing the capacity charge. Other sources used in the analysis are identified in the source and note lines of the tables in this report:

- Contract 3 Improvements Detail (OPUD; September 2026) (**Appendix A**)
- Existing Plant Replacement Value (OPUD; October 2026) (**Appendix C**)
- Depreciation Schedule of Existing OPUD Wastewater Treatment Assets (OPUD; October 2026) (**Appendix D**)
- OPUD Wastewater Treatment Plant Master Plan Update (Jacobs; October 2026) (**Appendix E)**

Organization of Report

This Nexus Study is organized into the following chapters:

- **Chapter 1** summarizes the proposed capacity charge and the requirements applicable to it.

- **Chapter 2** establishes the unit of demand used to allocate wastewater facility costs and quantifies the new demand that the planned capacity expansion will serve as well as the capacity that remains available to new development in the existing Plant.
- **Chapter 3** details the capital improvements required to expand Plant capacity and the estimated cost of those improvements. It also establishes the value of the existing Plant and new development's share of that value and identifies the sources and uses of funding for the capital improvement program.
- **Chapter 4** details the cost allocation methodology and the resulting capacity charge calculation.
- **Chapter 5** documents the nexus findings for the capacity charge.
- **Chapter 6** describes implementation and administration of the capacity charge program.
- **Appendix A** provides a detailed description of the improvements to be constructed under Contract 3 and identifies the portion of future users' capacity charge revenue that OPUD may use to repair the portion of the existing Plant whose capacity will be subsumed by new users' demand.
- **Appendix B** provides illustrative example calculations of nonresidential capacity charges based on sample project characteristics.
- **Appendix C** details the replacement cost of the existing Plant, by component.
- **Appendix D** provides the depreciation schedule for the existing Plant.
- **Appendix E** provides the OPUD Wastewater Treatment Plant Master Plan, prepared by Jacobs.

2. Wastewater Service Demand and Equivalent Dwelling Units (EDUs)

This chapter establishes the unit of demand used to allocate wastewater treatment facility costs to new development, quantifies the amount of new demand that the planned capacity expansion will support, and establishes the factors used to measure the relative demand placed on the Plant by each land use category subject to the capacity charge.

Unlike a citywide development impact fee program, which allocates facility costs across projected development through the buildout of an adopted land use plan, a wastewater capacity charge may allocate costs across the units of capacity that the facilities in question will provide. The capacity of a wastewater treatment plant is a finite, engineered quantity, and the cost of providing that capacity is therefore most directly allocated on a per-unit-of-capacity basis. This approach has the further advantage of remaining valid regardless of the pace at which development occurs: each new connection pays for the increment of capacity it consumes, whether it connects in the first year after the capacity charge is adopted or the last.

Equivalent Dwelling Units

The Equivalent Dwelling Unit (EDU) is the unit of demand used throughout this Nexus Study. One EDU represents the average wastewater demand generated by one single-family dwelling unit. Based on the engineering analysis prepared by Jacobs, one EDU is defined for purposes of this Nexus Study as 230 gallons per day of flow, 0.55 pounds per day of biochemical oxygen demand (BOD), and 0.50 pounds per day of total suspended solids (TSS).[1] The capacity expansion described in **Chapter 3** is sized on the basis of new ADWF, and the new facility costs (and the resulting capacity charge) are therefore allocated on the basis of ADWF for residential users. As is detailed in **Chapter 4**, nonresidential capacity charges are assessed based on a project-specific analysis of new flow, BOD, and TSS loadings that a nonresidential project (or use-type conversion) will generate, with the project's EDU obligation determined by the most critical of those three factors.

New EDUs Supported by the Capacity Expansion

Table 3 calculates the number of new EDUs that the planned capacity expansion will support. The existing Plant is rated at 3.0 mgd ADWF. As is detailed in **Chapter 3,** capital improvements will add 2.0 mgd of ADWF capacity, bringing total Plant capacity

[1] Effluent generated by residential users typically has concentrations of **287 mg BOD/L** and **261 mg TSS/L**. This equates to 0.55 pounds per day of BOD and 0.50 pounds per day of TSS when 230 gallons of effluent are generated. BOD and TSS concentrations in effluent generated by nonresidential users vary.

to 5.0 mgd. Dividing the 2.0 mgd of new capacity by the 230 gallons per day of ADWF associated with one EDU yields 8,696 new supportable EDUs.

New EDUs Available in the Existing Plant

The planned expansion is not the only source of treatment capacity available to new development. The existing Plant is rated at 3.0 mgd ADWF and presently treats approximately 1.75 mgd, leaving approximately 1.25 mgd of existing capacity that new development will occupy before the expanded capacity is needed. At 230 gallons per day per EDU, that unused 1.25 mgd is equivalent to approximately 5,435 EDUs, and the Plant's full 3.0 mgd rating is equivalent to approximately 13,043 EDUs.

Total New EDUs Available for New Users

The **8,696 new EDUs** shown in **Table 3** represent the increment of capacity created by the capital improvement program. Together with the 5,435 EDUs of capacity that remain unused in the existing Plant, they form the 14,130 EDUs of capacity made available by the charge-funded improvements. Costs are allocated over this 14,130-EDU denominator in **Chapter 4**.

Table 3. New EDUs Supported by the Existing Plant and Planned Capacity Expansion

Item	Formula	Unit	Value
Plant Expansion EDUs (3mgd to 5mgd)			
Capacity Expansion from Planned Capital Improvements	A	gal/day	2,000,000
Average Day Demand per EDU	B	gal/day	230
New Supportable EDUs (New Capacity / Demand per EDU)	**C = A / B**	EDUs	**8,696**
New Development Share of Existing Plant Buy-In (3mgd WWTP)			
Existing Treatment Capacity	D	gal/day	3,000,000
Less Capacity Utilized	E	gal/day	(1,750,000)
Available Capacity	F = D - E	gal/day	**1,250,000**
Future Capacity Portion of Total Capacity	G = F / D		**41.7%**
EDUs to Fill Unused Capacity in Existing Plant			
Total EDUs Supported by Existing Plant's 3mgd Capacity	H = D / B	EDUs	13,043
Buy-In EDUs	**I = F / B**	EDUs	**5,435**
Total New EDUs [1]	**J = C + I**	**EDUs**	**14,130**

Source: OPUD; Jacobs; EPS.

[1] Total EDUs do not sum due to rounding.

3. Wastewater Treatment Facilities Costs and Sources and Uses of Funding

This chapter details the capital improvements required to expand OPUD's wastewater treatment capacity from 3.0 mgd to 5.0 mgd ADWF and the estimated cost of those improvements, along with the sources of funding available to pay for them. This chapter also establishes the value of the existing Plant and the share of that value attributable to the capacity that new development will occupy.

Planned Capital Improvements (2026$)

The capital improvement program presented in **Table 4** was developed by Jacobs and consists of the improvements necessary to expand each unit process at the Plant to accommodate 5.0 mgd of ADWF. The improvements will add treatment trains, pumping capacity, and solids handling capacity. Several unit processes—the influent pumping station, the effluent pumping station, and the outfall—require no improvements because their existing capacity is sufficient to convey 5.0 mgd.

The estimated cost of the capital improvements totals $68.0 million in 2026 dollars. Soft costs, estimated at $12.0 million, include the predesign study, design, permitting, geotechnical investigation, engineering services during construction, preparation of the operations and maintenance manual, and construction management. **The total projected improvement cost, including soft costs, is $80.0 million.**

Table 4. Capital Improvement Program

Item	Description	Cost
Capacity Expansion		
Headworks	Add one grit pump and one grit classifier	$680,000
Influent Pumping Station	None	-
Secondary Treatment		
Oxidation Ditch	Add one 1.6-MG ditch with 150-hp aerators	$14,474,000
Secondary Clarifier	Add splitter box and one 105-diameter, 14-foot SWD clarifier	$7,674,000
RAS/WAS Pumping		$4,857,000
Tertiary Treatment, Disinfection, and Support Facilities		
Filter Influent Pump Station	Add three 4,300-gpm pumps	$7,189,000
Tertiary Filtration	Install three new filter units with 20 disks to replace three existing filter units	$5,926,000
UV Disinfection	Add one UV disinfection channel	$5,149,000
Effluent Pumping Station	None	-
Outfall	None	-
Solids Handling and Disposal	-	$17,194,000
Emergency Generator	Add one 2,000-kW generator	$3,886,000
Odor Control	Cover and install odor control for headworks channels, grit chambers, fine screens, IPS wet well, and grit classifiers	$971,000
Subtotal Capital Improvements		**$68,000,000**
Soft Costs [1]		**$12,000,000**
Total Cost (Rounded)		**$80,000,000**

Source: Jacobs; EPS.

[1] Includes predesign study, design, permitting, geotechnical, engineering services during construction, O&M Manual, and construction management.

Value of the Existing Plant

The capital improvement program is one of two facility cost elements recovered through the capacity charge. The other is new development's share of the value of the existing 3.0-mgd Plant, of which approximately 1.25 mgd of capacity remains unused and available to new development. Because that capacity has already been constructed, the cost of providing it is measured by valuing the existing asset rather than by estimating the cost of building it.

Replacement Cost Less Depreciation

The existing Plant is valued at its estimated replacement value of $90.0 million (per OPUD, see **Appendix C**), less accumulated depreciation of $20.1 million, for a depreciated replacement value of $69.9 million.[2]

[2] Stating the value net of depreciation reflects the fact that new development connects to a partially used asset rather than a new one, and it avoids charging new development for service life that has already been consumed.

Contract 3

Contract 3, which carries a total cost of $25.2 million, funds treatment plant improvements to bring the existing Plant up to its rated capacity of 3.0 mgd (it cannot currently handle 3.0 mgd of flow) as well as replacement and reliability improvements to extend the working life of the OPUD WWTP[3]. The $25.2 million investment in the existing Plant will increase the Plant's value by $25.2 million.

Total Value

The existing Plant is valued at $95.1 million, as is shown below in **Table 5,** including its replacement cost less depreciation and the value of Contract 3 improvements.

New Development Share of Plant Value (Buy-In Cost Basis)

New development's share of that $95.1 million in value is measured by future development's share of the Plant's 3.0 mgd capacity (accommodated by Contract 3 improvements). The approximately 5,435 EDUs of unused capacity in the existing Plant (1.25 mgd) represent approximately 41.7 percent of the approximately 13,043 EDUs that the Plant's full 3.0 mgd rating supports (existing users occupy 1.75 mgd). Applying that 41.7 percent share to the $95.1 million net buy-in value yields $39.6 million as new development's share of the value of the existing Plant. That $39.6 million—in addition to the cost of the planned capital improvements to increase capacity from 3.0 to 5.0 mgd ($80.0 million)—will be recovered through the capacity charge. See **Table 5.**

[3] See **Appendix A** for more detail on repair and replacement improvements funded by Contract 3 and new development's proportional share of these improvements.

Table 5. Future Users' Share of Existing Plant Value (Buy-In Method)

Item	Formula	Value
Existing Plant Replacement Value		
Replacement Value of 3mgd Plant [1]		$90,000,000
Less Depreciation [2]		($20,114,480)
Subtotal - Replacement Cost Less Depreciation	**A**	**$69,885,520**
Plus Planned Contract 3 Improvements [3]	**B**	**$25,200,000**
Net Buy-In Value of Existing Plant	**C = A + B**	**$95,085,520**
New User Share of Buy-In (see Table 3 for EDU Calculations)		
Total EDUs Supported by Existing Plant's 3mgd Capacity	D	13,043
Future User EDUs from 1.75mgd to 3mgd	E	5,435
Future User Share of Existing 3mgd Capacity	**F = E / D**	**41.7%**
Future User Share of Buy-In Value of Existing Plant	**G = C * F**	**$39,618,967**

Source: OPUD; Jacobs; EPS.

[1] Per OPUD. See **Appendix C** for detail.

[2] See **Appendix D** for detail.

[3] **Contract 3** improvements will increase the value of the existing plant. **See Appendix A** for detail on Contract 3.

Repair and Replacement

Contract 3 restores the existing Plant to its rated 3.0 mgd capacity and repairs or replaces Plant components that can no longer reliably provide treatment capacity at 3.0 mgd. These improvements are necessary to make the existing Plant's capacity available to new users. New development's share of the Contract 3 improvements is already reflected in the capacity charge through the buy-in component: the full $25.2 million cost of Contract 3 is included in the $95.1 million buy-in value of the existing Plant (**Table 5**), and new development funds 41.7 percent of that value. No portion of Contract 3 is charged to new development separately from, or in addition to, the buy-in component.

Of the $25.2 million in Contract 3 improvements, approximately $10.3 million funds reliability, repair, and replacement of existing Plant components (including components addressing peak wet weather flow), and the balance funds capacity restoration. Because new development will occupy a share of the capacity that these components preserve, a corresponding portion of the capacity-charge revenue new development pays may be expended on the capital repair and replacement of those components. That portion is not an additional charge and does not increase the capacity charge per EDU; it identifies an authorized *use* of revenue already included in the charge. As detailed in **Appendix A**, that portion is approximately $304.48 per EDU — 41.7 percent of the $10.3 million reliability/repair component, divided by the 14,130 EDUs of capacity available to new development.

Repair-and-replacement and peak-wet-weather-flow costs recovered through the capacity charge are recovered uniformly on a per-EDU basis across all new development and are not assigned disproportionately to any individual user or jurisdiction.

Sources and Uses of Funding

This section summarizes the funding available for the wastewater capital improvement program and identifies how the costs are shared between existing users and new development. It addresses both the cost of the planned capital improvements and the value of the existing Plant capacity that new development will occupy.

Table 6 identifies the sources of funding available to pay for the capital improvement program and improvements to the existing Plant. Future capacity charge payers will fund a total of $119.6 million in capital improvements.

Table 6. Sources and Uses of Funds

Item	Reference	Total Cost	Funding Source	
			Future User Capacity Charges	Existing Users [1] (Prior Payers)
Capacity Expansion (3mgd to 5mgd)	Table 4	**$80,000,000**	$80,000,000	-
Existing Plant Buy-In Value	Table 5	**$95,085,520**	$39,618,967	$55,466,553
Total		**$175,085,520**	**$119,618,967**	**$55,466,553**

Source: OPUD; Jacobs; EPS.

[1] No cost is allocated to existing users. Remainder of existing plant value (including Contract 3 improvements) shown for computational purposes.

4. Cost Allocation Methodology and Capacity Charge Calculation

This chapter details the methodology used to allocate the costs established in **Chapter 3** among the land use categories subject to the capacity charge and presents the resulting capacity charge calculation. The general steps are as follows:

1. Determine the cost to be recovered through the capacity charge. For the Plant, this is the $119.6 million consisting of the $80.0 million cost of the Plant Expansion and the $39.6 million representing new development's share of the depreciated value of the existing Plant, as established in **Table 6**.
2. Determine the units of demand over which the costs are allocated. This is the capacity available to new development, consisting of the 5,435 EDUs that remain unused in the existing Plant and the 8,696 EDUs of capacity created by the Plant Expansion, as established in **Table 3.**
3. Calculate the cost per EDU for each component as the cost from Step 1 divided by the units of demand from Step 2.
4. For nonresidential users, determine each project's loading for each of the three factors (flow, BOD, and TSS) defined in **Table 8**. Divide each loading type by the corresponding per-EDU loading factor and assign the project the number of EDUs produced by the most critical of the three factors (the factor that yields the greatest number of EDUs).
5. Add the capacity charge administration component, calculated as two percent (2%) of the capacity charge, to derive the total charge for each land use category.

Facilities Cost per EDU

Table 7 calculates the capacity charge per EDU. Dividing the $119.6 million of capacity charge-funded capital improvement program and existing facility buy-in cost by the 14,130 new EDUs of capacity available to new development yields a capacity charge of $8,465 per EDU (in 2026 dollars).

Table 7. Allocation of Improvement Costs per EDU

Cost per Future EDU	Source	Value
Capacity Charge-Funded Cost		
Plant Expansion (3mgd to 5mgd)	Table 4	$80,000,000
Buy-In to Existing Plant (Unused 1.25mgd)	Table 5	$39,618,967
Total Cost Allocated to Future Fee Payers		**$119,618,967**
Future Capacity Charge-Paying EDUs		
Existing Plant EDU Capacity	Table 3	5,435
Future Plant Expansion EDUs	Table 3	8,696
Total Future EDUs		**14,130**
Capacity Charge per EDU *(Before Administration Component,*		**$8,465**

Source: OPUD; Jacobs; EPS.

Wastewater Flow and EDU Factors by Land Use

Residential

Table 8 presents the effluent generated by one EDU. A single-family dwelling unit equates to one EDU, as does a multifamily unit with three or more bedrooms. A multifamily unit with two or fewer bedrooms equates to three-quarters of an EDU based on its assumed persons per household as compared to the assumed persons per household for a single-family unit. The capacity charge per single-family unit is equivalent to the capacity charge per EDU, and the capacity charge per multifamily unit (with two or fewer bedrooms) is equal to three-quarters of the capacity charge per single-family unit.

Nonresidential

Because the wastewater loadings generated by nonresidential users vary significantly across projects, the number of EDUs a nonresidential project consumes will be assigned on a project-by-project basis through an analysis by OPUD. Once a project's EDU generation is established, the project's capacity charge obligation is calculated as the capacity charge per EDU multiplied by the number of EDUs generated by the project. One EDU represents the flow, Biochemical Oxygen Demand (BOD), and Total Suspended Solids (TSS) loading that one would associate with a single-family home. An EDU consists of the loading characteristics shown in **Table 8.**

Table 8. Loading Factors per EDU

Item	Amount per EDU, per Day	Effluent Concentration
Flow	230 gallons	-
Biochemical Oxygen Demand (BOD)	0.55 pounds	287 mg/L
Total Suspended Solids (TSS)	0.50 pounds	261 mg/L

Source: OPUD; Jacobs; EPS.

A project's total EDUs are determined by its most critical loading factor. This is calculated by dividing the project's estimated flow, BOD, and TSS by the corresponding per-EDU loading factors shown above and assigning the project the greatest of the three resulting EDU counts. Allocating on the most critical factor measures the project's contribution to the total EDU capacity of the Plant, because the loading factor that exhausts capacity first governs the share of Plant capacity the project occupies. Example calculations are presented in **Appendix B.**

Capacity Charge by Land Use Category

Table 9 applies the residential EDU factors described above to the per-EDU costs derived in **Table 7** to calculate the capacity charge for each residential land use category. Residential charges are expressed per dwelling unit. **Figure 1** on **Page 20** summarizes the capacity charge calculation methodology.

Table 9. Capacity Charge by Residential Land Use Category

Land Use	EDU Factor *(Flow vs SFR)*	Capacity Charge by Residential Land Use		
		Capacity Charge	Admin. (2%)	**Total**
Single-Family Residential [1]	1.00	$8,465	$169	**$8,635**
Multifamily Residential [1]	0.75	$6,349	$127	**$6,476**

Nonresidential EDUs are calculated on a project-by-project basis based on projected wastewater, TSS, and BOD generation compared to one EDU. See Table 8 for loading factors and Appendix B for sample nonresidential capacity charge calculations.

Source: OPUD; Jacobs; EPS.

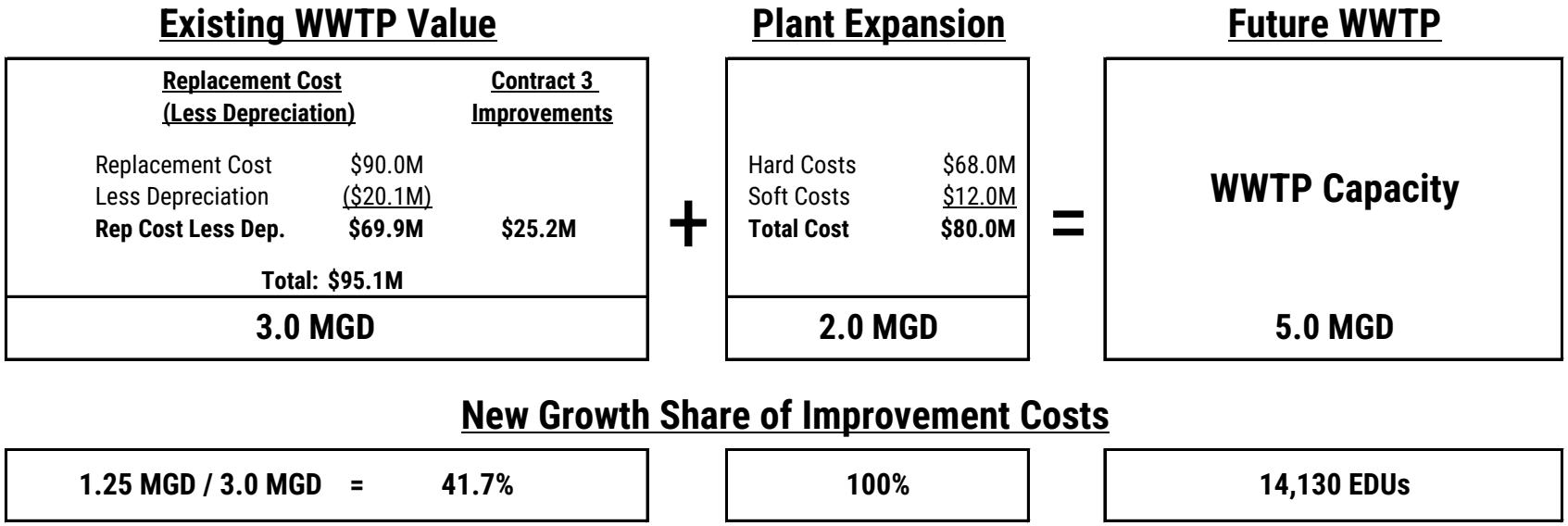
[1] Multifamily units with two bedrooms or fewer are charged the multifamily rate. Multifamily units with three or more bedrooms are charged the single-family rate.

Capacity Charge Administration Component

The capacity charge administration component is calculated as two percent (2%) of the capacity charge for each land use category. The component funds the tasks identified in **Chapter 6**, including tracking capacity charge payments, credits, and reimbursements; administering construction contracts funded by the capacity charge; performing the

annual inflation adjustment; preparing the annual and five-year reports required by statute; and periodically updating this Nexus Study and the underlying master planning.

Figure 1. WWTP Capacity Charge Methodology



* Before administration component (2%).

5. Nexus Findings

This report has been prepared to establish an updated wastewater capacity charge in accordance with CGC Section 66013, which governs sewer connection fees and capacity charges, and with the procedural and nexus requirements of the Mitigation Fee Act, codified at CGC Section 66000 et seq. This chapter documents the findings required to support adoption of the capacity charge.

California Government Code Section 66013

CGC Section 66013(a) provides that a fee imposed for a sewer connection, or a capacity charge, "shall not exceed the estimated reasonable cost of providing the service." The capacity charge established in this Nexus Study satisfies that standard.

1. ***The capacity charge does not exceed the estimated reasonable cost of providing service.***

   The capacity charge recovers no more than the cost of the capital improvements required to create the treatment capacity that new development will consume, divided by the full increment of capacity that the charge-funded improvements make available to new development.

   The capacity charge administration component recovers the District's reasonable cost of administering the capacity charge program. No component of the capacity charge recovers any cost of operating or maintaining capacity used by existing users.

2. ***The capacity charge is a charge for public facilities of proportional benefit to the property charged, within the meaning of Section 66013(b)(3).***

   The capacity charge is a charge for new development's share of existing public facilities and new public facilities to be constructed in the future. The benefit is proportional because the charge is levied on the basis of the number of EDUs of capacity the development will consume, and capacity is the benefit the facilities confer. The capacity charge includes charges in both of the categories identified in Section 66013(b)(3): the cost of new public facilities to be constructed in the future, and a proportionate share of the value of public facilities in existence at the time the charge is imposed, corresponding to the unused capacity in the existing Plant that new development will occupy.

California Government Code Section 66001

CGC Section 66001 requires a local agency imposing a fee or charge to identify the purpose of the fee or charge and the use to which it will be put, and to determine that a reasonable relationship exists between that use, the need for the facility, the amount of the fee or charge, and the development on which the fee or charge is imposed. The findings required by that section are set out below for each component of the capacity charge.

Capacity Charge Component

Purpose of Capacity Charge

The purpose of the facilities component is to provide funding for the capital improvements required to expand the capacity of the OPUD wastewater treatment plant from 3.0 mgd to 5.0 mgd ADWF, so that the Plant can treat the wastewater generated by new development within the District's service area without reducing the level of service provided to existing users. The facilities component also recovers new development's share of the value of the treatment capacity that exists at the Plant today and is not yet in use, which new development will occupy as it connects and before the expanded capacity is required.

Use of Capacity Charge

The capacity charge will be used to fund the capital improvements identified in **Table 4**, including headworks, secondary treatment, tertiary treatment, disinfection, solids handling, standby power, and odor control improvements, together with the soft costs necessary to design, permit, and construct them. It will also fund new users' proportional share of the value of the existing Plant and the costs to improve the existing Plant to accommodate new users.

Relationship Between Use of Capacity Charge and Type of Development

A reasonable relationship exists between the use of the capacity charge and the residential and nonresidential development on which it is imposed because the improvements it funds create the treatment capacity that development requires in order to connect to the District's wastewater system. Every land use category subject to the capacity charge generates wastewater that must be conveyed to and treated at the Plant, and the improvements funded by the capacity charge are the improvements that make that treatment possible.

Relationship Between Need for Facility and Type of Development

New residential and nonresidential development within the District's service area will generate additional wastewater flow that will utilize the remainder of the 3.0 mgd of ADWF capacity available at the existing Plant and eventually exceed the 3.0 mgd capacity, requiring expansion. A reasonable relationship exists between the need for the capacity expansion and the type of development on which the capacity charge is imposed because each project subject to the charge generates a

quantifiable volume of effluent, and the aggregate of that effluent is what necessitates the expansion. Without the expansion, the Plant could not accept the effluent generated by the new development. Before the expanded capacity is required, new development will occupy the approximately 1.25 mgd of capacity that exists at the Plant but is not presently used. That capacity was constructed in advance of need and is available to new development only because it was built and has since been maintained, and a reasonable relationship therefore exists between the existing Plant and the development that will occupy its remaining capacity.

Relationship Between Amount of Charge and Cost of Facility or Portion of Facility Attributed to Development on Which Charge is Imposed

The cost of the treatment capacity attributable to new development is allocated among land use categories in proportion to the relative wastewater flow each generates, measured in EDUs. The capacity charge-funded cost is divided by the total number of EDUs of capacity available to new development, yielding a cost per EDU, and that cost per EDU is multiplied by the EDU factor for each land use category. A reasonable relationship therefore exists between the amount of the capacity charge and the cost of the portion of the capacity attributable to the development on which it is imposed, because each development pays for the increment of capacity it consumes, at the same cost per increment as every other development type. The same allocation applies to the buy-in element. New development's share of the depreciated value of the existing Plant is limited to the proportion of existing Plant capacity that remains available to new development, and that amount is divided by the same total EDU denominator, so that each new EDU pays the same amount for the existing capacity it may occupy as for the new capacity constructed to serve it.

Capacity Charge Administration Component

The capacity charge administration component funds the District's costs of administering and implementing the capacity charge program, including periodic updates to this Nexus Study and the underlying master planning, negotiation and administration of credit and reimbursement agreements, credit and reimbursement tracking, the annual and five-year reporting required by statute, and other related costs. Collection and implementation of the capacity charge, and of each of its constituent components, depend on funding from the capacity charge administration component.

For each land use category, the capacity charge administration component is calculated as two percent (2%) of the capacity charge. The cost of the capacity charge administration component is therefore derived from, and is proportional to, the facilities-funding capacity charge component, and the nexus findings for the capacity charge administration component are established by the findings for the capacity charge documented above.

California Government Code Section 66016.5

CGC Section 66016.5(a)(5)(A), added by AB 602, requires that a nexus study calculate a fee or charge imposed on a housing development project proportionately to the square footage of the proposed units of the development. Section 66016.5(b) provides that "[t]his section does not apply to any fees or charges pursuant to Section 66013." Fees and charges imposed pursuant to Section 66013, including the capacity charge established in this Nexus Study, are therefore expressly exempt from that requirement.

The capacity charge established in this Nexus Study is a capacity charge imposed under CGC Section 66013. Section 66016.5 therefore does not apply to it, and no findings under Section 66016.5 are required. Notwithstanding that exemption, and consistent with the standards Section 66016.5 establishes for impact fee nexus studies generally, this Study establishes residential capacity charges separately for single-family and multifamily dwelling units on the basis of the average wastewater flow each unit type generates.

6. Capacity Charge Implementation and Administration

The capacity charge presented in this report is based on the best available estimates of Plant capacity, capital improvement costs, funding sources, wastewater generation factors, and administrative costs at the time of preparation. If there are significant and material changes to costs, the scope of the capital improvement program, or other assumptions, or if additional funding becomes available, the capacity charge should be updated accordingly.

Following adoption of the capacity charge established in this report, OPUD should conduct periodic reviews of the improvement costs and other assumptions underlying it and make the necessary adjustments. The cost estimates in this report are in constant 2026 dollars; in years in which OPUD does not update the capacity charge by reviewing facility costs and other assumptions, the charge should be adjusted for inflation as described below.

Implementing Resolution

The updated capacity charge schedule must be adopted by resolution of the OPUD Board of Directors. The updated capacity charge will be effective 60 days following final action on the adoption of this Nexus Study and the associated capacity charge resolution.

Inflation Adjustment

The costs in this report are shown in 2026 dollars. To ensure that the capacity charge remains current with the prevailing cost of construction, the charge should be adjusted automatically each year to account for inflation or deflation in construction, environmental, and design costs. Consistent with the District's current practice, the annual adjustment should occur automatically on March 1 of each calendar year, and the capacity charge should be adjusted by the average of the annual percentage change in the Engineering News-Record 20-Cities Construction Cost Index and the Engineering News-Record San Francisco Construction Cost Index for the 12-month period ending in December of the immediately preceding calendar year. For example, the adjustment effective March 1, 2028, would be based on the percentage change in those indices from December 2026 through December 2027.

Only the capacity charge component should be adjusted on this basis. The capacity charge administration component, which is calculated as a percentage of the capacity charge, adjusts automatically as a consequence.

Capacity Charge Exemptions, Reductions, and Credits

Public Agencies

Federal and state agencies, public school districts, and OPUD itself may be exempt from the capacity charge. Other non-District public agencies are subject to the charge; however, OPUD may choose to waive some or all of the charges in specific cases at the District's discretion.

Replacement and Reconstruction

Replacement or reconstruction of a residential unit or nonresidential structure that is damaged or destroyed by fire, flood, explosion, wind, earthquake, riot, other calamity, or act of God, with no change in use and no increase in wastewater demand, is exempt from the capacity charge. If the replaced or reconstructed. generates greater wastewater demand than the damaged or destroyed development—because it contains more dwelling units or more nonresidential building square footage, or because the use has changed to a higher-demand category—the capacity charge applies to any incremental increase in demand.

Additions, Alterations, and Non-Habitable Structures

The following rules apply to additions, alterations, and modifications:

1. **ADUs and JADUs**. As described in **Chapter 1**, OPUD will not treat an ADU or JADU as a new residential use for purposes of calculating the wastewater capacity charge, and no capacity charge is imposed on the ADU or JADU on that basis—except where an ADU or JADU is constructed together with a new single-family dwelling. Where an ADU or JADU is constructed together with a new single-family dwelling, the primary dwelling is charged as a single-family unit (1.0 EDU) and the ADU or JADU is charged as provided in paragraph 3.

2. **Statutorily protected ADUs and JADUs.** OPUD will not require a new or separate utility connection, or impose any related connection fee or capacity charge, on an ADU or JADU described in Government Code Section 66323(a)(1), unless the unit is constructed with a new single-family dwelling or upon the separate conveyance of the ADU pursuant to Government Code Section 66342.

3. **Other ADUs and JADUs — proportionate charge.** For an ADU or JADU that is not described in Government Code Section 66323(a)(1) and for which OPUD requires a new or separate utility connection, the capacity charge is proportionate to the burden the unit places on OPUD's wastewater treatment facilities. Consistent with Government Code Section 66311.5(e), OPUD will measure that burden on the basis of the number of the unit's drainage fixture units (DFU), as defined in the Uniform Plumbing Code, expressed as a fractional EDU relative to the loading characteristics of one EDU established in **Chapter 2**

and **Table 8**. The resulting capacity charge for the ADU or JADU equals that fractional EDU multiplied by the capacity charge per EDU, plus the administration component. In no event will the capacity charge for an ADU or JADU exceed the reasonable cost of providing service.

4. **An addition to a residential structure that does not add a dwelling unit** is not subject to the capacity charge, because the charge is assessed per dwelling unit rather than by unit size.

5. **When an existing residential dwelling is converted into two primary units**, or a new primary dwelling unit is added to a parcel, the new unit is subject to the capacity charge.

6. **Non-habitable residential structures**, including decks, pools and spas, pool cabanas, sheds, and detached garages, are not subject to the capacity charge.

7. **An addition or alteration to a nonresidential structure** is subject to the capacity charge on the incremental usage added, if applicable. A change in use to a higher-demand land use category is subject to the capacity charge on the difference between the charge for the new category and the charge for the prior category.

Credit for Replacement of Existing Development

New development that replaces existing development connected to the District's wastewater system is eligible for credit against the capacity charge to the extent of the wastewater demand of the development being replaced, measured in EDUs. For example, a four-unit apartment building replaced by an eight-unit apartment building would be eligible for a credit equal to the capacity charge for four multifamily units, so that the capacity charge is assessed only on the four units of net new demand.

Credit under this provision is available only where the development being replaced was connected to the District's wastewater system and in active service within a period specified in the capacity charge resolution, and only where OPUD has not reallocated the corresponding capacity to another user. Credit is measured and carried in EDUs rather than in dollars, so that its value adjusts with the annual inflation adjustment. Credit may not exceed the capacity charge otherwise due and is not refundable in cash.

Capacity Charge Credit and Reimbursement

As is typical of capital facilities funded through capacity charges, wastewater treatment improvements generally must be constructed before sufficient capacity charge revenue has been collected to pay for them. Consequently, some form of

alternative funding—District reserves, debt, land-secured financing, or developer equity—may be necessary to pay for improvements when they are needed.

Where a private party has advance-funded an improvement eligible for capacity charge funding, that party will be owed credits or reimbursement from the capacity charge program. The capacity charge administration component must be paid in cash in all cases, to provide the District with the funding needed to administer the program. Credits and reimbursements will be provided under the following conditions:

- Only improvements identified in the capital improvement program presented in **Table 4** are eligible for credit or reimbursement, and only funds collected through the capacity charge will be used to reimburse a party that constructed an eligible improvement.
- The value of a privately constructed improvement for credit or reimbursement purposes shall be the lesser of (1) the actual cost of the eligible improvement, as determined by OPUD through review of the construction contract and payments made, plus an allowance determined by OPUD for soft costs directly associated with design and construction, or (2) the cost of that improvement as set forth in the capital improvement program, subject to the annual inflation adjustment described in this chapter.
- All construction contracts, construction work, and requests for reimbursement shall conform to the District's policies governing construction of eligible improvements and to the terms of a credit and reimbursement agreement executed between OPUD and the party constructing the improvement.

Adoption Process

The procedures for adopting a charge of this type are set forth in CGC Sections 66016 through 66019, and, for capacity charges, in CGC Section 66013. Adoption requires the OPUD Board of Directors to hold a public hearing with at least 14 days' notice. OPUD must make the data on which the capacity charge is based, including this Nexus Study and the material referenced in it, available to the public at least 10 days before the hearing, and must provide mailed notice at least 14 days before the hearing to any person who has filed a written request for such notice. Any new or increased capacity charge is effective 60 days after adoption.

Compliance Requirements

CGC Section 66013 and the Mitigation Fee Act establish requirements for the administration of the capacity charge program, including deposit, accounting, reporting, expenditure, and refunds. The District's principal obligations are summarized below.

Earmarking of Capacity Charge Revenues

CGC Section 66013(c) requires that capacity charge revenues be deposited in a separate capital facilities fund, that they be invested with interest accruing to that fund, and that they be expended solely for the purposes for which they were collected. CGC Section 66006 imposes a parallel requirement for charges subject to the Mitigation Fee Act. OPUD should accordingly deposit capacity charge revenue in a separate wastewater capital facilities fund, avoid commingling it with other District revenues except for temporary investment, and credit interest earned on the fund to the fund.

Earmarking and Use of the Repair-and-Replacement Portion

All capacity-charge revenue, including the administration component, will be deposited into the District's WWTP Capital Connection Fee Fund, a separate capital facilities fund, will not be commingled with other District revenues except for temporary investment, will retain any interest it earns, and will be expended solely for the capital purposes for which it was collected, in accordance with Government Code Section 66013(c). The portion of capacity-charge revenue identified in **Appendix A** as available for repair and replacement (approximately $304.48 per EDU) will be held in a segregated capital-preservation subaccount within the WWTP Capital Connection Fee Fund and will be used solely for the capital repair or replacement of the Plant components that create or preserve treatment capacity available to new development. That subaccount will not be used to fund the ongoing operation or maintenance of the Plant, which is recovered through the District's monthly sewer service charges and not through the capacity charge.

Reporting

CGC Section 66013(d) and CGC Section 66006 require that, within 180 days of the close of each fiscal year, OPUD make available to the public the following information for each account established to receive capacity charge revenue:

1. The amount of the capacity charge.
2. The beginning and ending balance of the account or fund.
3. The amount of capacity charges collected and interest earned.
4. Identification of each public improvement on which capacity charge revenues were expended and the amount expended on each improvement, including the percentage of the cost of the improvement funded with capacity charge revenue.
5. Identification of the approximate date by which construction of an incomplete public improvement will commence, if OPUD determines that sufficient funds have been collected to complete financing of that improvement.

6. A description of each interfund transfer or loan made from the account or fund, including interest rates, repayment dates, and a description of the improvements on which the transferred or loaned funds will be expended.
7. The amount of any refunds or allocations made pursuant to CGC Section 66001, subdivisions (e) and (f).

The information listed above must be reviewed by the OPUD Board of Directors at its next regularly scheduled public meeting, but not fewer than 15 days after the information is made available to the public.

Findings and Refunds

CGC Section 66001 requires that, for the fifth fiscal year following the first deposit of capacity charge revenue into an account or fund, and every five years thereafter, OPUD make all of the following findings with respect to any portion of the capacity charge revenue that remains unexpended, whether committed or uncommitted:

1. Identify the purpose to which the capacity charge revenue is to be put.
2. Demonstrate the reasonable relationship between the capacity charge and the purpose for which it is charged.
3. Identify all sources and amounts of funding anticipated to complete financing of incomplete improvements for which the capacity charge revenue is to be used.
4. Designate the approximate dates on which the funding necessary to complete financing of those improvements will be deposited into the appropriate account or fund.

Programming Revenues and Projects

OPUD should program capacity charge revenue to specific projects through its capital improvement planning process and should plan its capital expenditures at least five years in advance, showing where collected capacity charge revenue will be spent. Doing so documents the reasonable relationship between new development and the use of capacity charge revenue. The District may hold funds in a project account for longer than five years where necessary to accumulate sufficient funds to complete a project, provided it makes the findings described above.

Updating the Nexus Study

Fees and charges imposed pursuant to CGC Section 66013 are not subject to the periodic update requirement of CGC Section 66016.5(a)(8). Consistent with the standard that section establishes for impact fee nexus studies generally, OPUD will update this Nexus Study as needed to account for changes to construction costs, effluent loadings, Plant capacity, or other needs of the District.

Economic & Planning Systems, Inc.
The Economics of Land Use

Appendices

Appendix A
Contract 3 Improvements

Appendix B
Nonresidential Capacity Charge Calculations

Appendix C
Existing Plant Replacement Cost

Appendix D
Existing Plant Depreciation Schedule

Appendix E
OPUD Wastewater Treatment Plant Master Plan

Appendix A
Contract 3 Improvements

As discussed on **Page 14**, Contract 3 will restore the existing Plant to its rated 3.0 mgd capacity through a number of capital improvements. The improvements funded by Contract 3 are detailed in **Table A-1** on **Page 34**.

As part of the buy-in component of the capacity charge, new development will fund 41.7% of the cost of Contract 3 improvements, as determined in **Table 5** (**Chapter 3, Page 14**). This amounts to approximately $10.5 million (41.7 percent of $25.2 million). This amount is **included within** the $39.6 million existing-Plant buy-in cost that forms part of the capacity-charge cost basis; it is not added to the cost basis separately. The capacity-charge cost basis is $119.6 million, consisting of the $80.0 million Plant Expansion and the $39.6 million buy-in (of which the Contract 3 share is a part), divided by 14,130 EDUs.

Contract 3 Repair and Replacement Funding

A portion of Contract 3 improvements—approximately $10.3 million of the total $25.2 million—will be used to repair/replace components of the existing Plant to accommodate peak wet weather flow increases and ensure it can treat its rated 3.0 mgd capacity. Of the $10.3 million in repair and replacement funding under Contract 3, capacity charges paid by future users will fund 41.7%, which amounts to $4.3 million. Dividing this $4.3 million by the 14,130 future EDUs that will pay capacity charges determines that $304.48 of the per-EDU capacity charge ($8,465, excluding administration)—or 3.6% of total charge revenue (excluding revenue from the administrative component)—can be used to fund repair/replacement of existing Plant components under Contract 3.

Figure 2 details this calculation on **Page 33**.

Figure 2. Contract 3 Repair and Replacement Funding

Contract 3 Improvements

Capacity Growth	$14.9M
Reliability and Repair	$10.3M
Total	**$25.2M**

New Growth Share of Contract 3

Capacity Occupied by Existing Users	1.75 MGD
Capacity Reserved for Future Users*	1.25 MGD
Capacity with Contract 3 Improvements	**3.00 MGD**
Future Users Share of Plant Capacity	**41.7%**

*Plant will accommodate 3 MGD as a result of Contract 3 improvements.

R&R Funding From Future User Fees

Total R&R Funding in Contract 3	$10.3M
New Development Share of Contract 3 Costs	41.7%
New Development R&R Funding	**$4.3M**

R&R Funding per EDU

New Development R&R Funding	$4.3M
Future EDUs (Existing and Expanded Plant)	14,130 EDUs
Portion of Capacity Fee to Fund R&R (per EDU)	**$304.48**

Table A-1. Contract 3 Detail and Cost Allocation

Project Element	Estimated Construction Cost	Costs of Capacity Expansion	Reliability/Repair and Peak Flow [1]
Site Work	$696,000	$410,640	$285,360
Yard Piping	$1,980,000	$1,168,200	$811,800
Headworks	$915,000	$375,150	$539,850
Influent Pump Station	$909,000	$372,690	$536,310
Oxidation Ditch	$ -	-	-
Secondary Clarifier	$6,810,000	$2,792,100	$4,017,900
RAS/WAS Pump Station	$340,000	$139,400	$200,600
Filter Influent Pump Station	$ -	-	-
Disk Filters	$2,795,000	$2,236,000	$559,000
UV System	$2,067,000	$640,770	$1,426,230
Utility Water (W2)	$410,000	$410,000	-
Solids Handling	$3,000,000	$3,000,000	-
SCADA	$660,000	$435,600	$224,400
FEB Pump Station	$890,000	$364,900	$525,100
Ops Building Renovation	$610,000	$610,000	-
Potable Water Supply (W1)	$150,000	$49,500	$100,500
Vac Truck Dump Station	$300,000	$300,000	-
Internet Service	$70,000	$28,700	$41,300
Workstation Furniture	$50,000	$50,000	-
Increase Pavement at Digesters	-	-	-
Odor Control	-	-	-
Chemical System	$150,000	$75,000	$75,000
Total Hard Costs	**$22,802,000**	**$13,458,650**	**$9,343,350**
Soft Costs	**$2,398,000**	**$1,415,395**	**$982,605**
Total Estimated Costs	**$25,200,000**	**$14,874,045**	**$10,325,955**
New Development Share of R&R (41.7%) [2]		**-**	**$4,302,481**

Source: OPUD; Jacobs; EPS.

[1] Reliability and repair costs to prepare the Plant to handle peak wet weather flow increases at 3.0 mgd capacity.

[2] New development will pay for 41.7% of R&R costs that are funded by Contract 3, based on the share of existing Plant capacity that is reserved for future users (1.25 / 3.0 mgd = 41.7%). **Figure 2** details this calculation.

Appendix B
Nonresidential Capacity Charge Calculations

Nonresidential Capacity Charge Calculation Procedure

For each nonresidential project application, OPUD will perform an analysis to determine how much effluent will be generated by the project. OPUD will estimate the total flow, BOD, and TSS that the project will generate and compare these figures to the per-EDU loading factors identified in **Table 8** and repeated below in **Table B-1.**

Table B-1. Loading Factors per EDU

Item	Amount per EDU, per Day	Effluent Concentration
Flow	230 gallons	-
Biochemical Oxygen Demand (BOD)	0.55 pounds	287 mg/L
Total Suspended Solids (TSS)	0.50 pounds	261 mg/L

Source: OPUD; Jacobs; EPS.

A project's total EDUs are calculated based on its most significant loading characteristic. For example, a project that generates 10,000 gallons of ADWF, 20 pounds of daily BOD, and 15 pounds of daily TSS contributes most significantly to ADWF load (43.48 ADWF EDUs, as compared to 36.36 BOD EDUs and 30.00 TSS EDUs) and would therefore be assessed a capacity charge for 43.48 EDUs. This example calculation is shown in **Table B-2** alongside other illustrative example calculations of nonresidential capacity charges in **Table B-3** and **Table B-4.**

Table B-2. Nonresidential Capacity Charge Calculation: Illustrative Example 1 (Flow-Dominant Use)

Item	Wastewater Generation per EDU, per Day	Example Project Wastewater Generation	EDUs by Loading Type	Total Capacity Charge *(includes admin)*
				$8,635 per EDU
Flow	230 gallons	10,000 gallons	**43.48**	**$375,420**
Biochemical Oxygen Demand (BOD)	0.55 pounds	20 pounds	36.36	-
Total Suspended Solids (TSS)	0.50 pounds	15 pounds	30.00	-

Source: OPUD; Jacobs; EPS.

Nonresidential Capacity Charge Calculation Procedure:

1) OPUD estimates wastewater generation of proposed project.

2) Identify most critical EDU factor (flow, BOD, or TSS)

3) Apply per-EDU capacity charge to most critical factor.

Table B-3. Nonresidential Capacity Charge Calculation: Illustrative Example 2 (BOD-Dominant Use)

Item	Wastewater Generation per EDU, per Day	Example Project Wastewater Generation	EDUs by Loading Type	Total Capacity Charge *(includes admin)*
				$8,635 per EDU
Flow	230 gallons	10,000 gallons	43.48	-
Biochemical Oxygen Demand (BOD)	0.55 pounds	25 pounds	**45.45**	**$392,484**
Total Suspended Solids (TSS)	0.50 pounds	20 pounds	40.00	-

Source: OPUD; Jacobs; EPS.

Nonresidential Capacity Charge Calculation Procedure:

1) OPUD estimates wastewater generation of proposed project.

2) Identify most critical EDU factor (flow, BOD, or TSS)

3) Apply per-EDU capacity charge to most critical factor.

Table B-4. Nonresidential Capacity Charge Calculation: Illustrative Example 3 (TSS-Dominant Use)

Item	Wastewater Generation per EDU, per Day	Example Project Wastewater Generation	EDUs by Loading Type	Total Capacity Charge *(includes admin)*
				$8,635 per EDU
Flow	230 gallons	1,200 gallons	5.22	-
Biochemical Oxygen Demand (BOD)	0.55 pounds	3.3 pounds	6.00	-
Total Suspended Solids (TSS)	0.50 pounds	4.1 pounds	**8.20**	**$70,804**

Source: OPUD; Jacobs; EPS.

Nonresidential Capacity Charge Calculation Procedure:

1) OPUD estimates wastewater generation of proposed project.

2) Identify most critical EDU factor (flow, BOD, or TSS)

3) Apply per-EDU capacity charge to most critical factor.

Appendix C
Existing Plant Replacement Cost

Based on analysis by OPUD, the cost to replace existing Plant assets would be $90 million, as is shown below in **Table C-1**.

Table C-1. Existing Plant Replacement Cost

Category	Replacement Cost
Buildings & Improvements:	
General Plant (4600 SF) - includes existing Plant offices, breakroom, lab, bathroom, and shop	$1,300,000
720 SF Trailer (12' x 60')	$45,000
Vehicle Cover building	$50,000
Office Equip & Furnishings (including Lab Director Equipment + computers)	$100,000
Maint. & Auto Equipment	$1,401,567
WWTF Equipment	
Bar Screen + Headworks infrastructure which includes 3 channels + influent pump station	$4,405,000
2 Grit vortex (2 pumps + 1 classifier) includes concrete sections	$1,500,000
(4 Influent Pump) + Housing location with concrete	$3,000,000
4 MCC/Electric Rooms - 1) Influent Pumps 2.) digester and aerators 3.) Oxidation ditches + bar screens + grit 4.) Filter + UV. They have VFDs, motor savers, PLCs, air conditioning	$7,700,000
2 Oxidation ditches, 4 anoxic mixers, 4 flow booster	$26,800,000
1 splitter box and one 105-diameter, 14-foot SWD Clarifier	$7,650,000
Filter Influent Pump Station	$4,000,000
3 Filters	$3,250,000
RAS/WAS Pump Station - 2 WAS & 2 RAS + station	$400,000
UV Disinfection	$6,700,000
Utility Water (3 Pumps)	$408,000
Solids Handling (includes concrete aeration pond + concrete holding pond, 4 - 50 HP aerators)	$4,900,000
Flow equalization basin	$6,905,000
8 sand channels (8 asphalt lined) - 2 feet deep each	$1,200,000
SCADA	$300,000
Generator	$3,250,000
Camera System	$125,000
Site Asphalt - Roughly 125,000 SF minimum ($5.80/SF)	$725,000
Site Storm channel + storm pond	$250,000
Potable water system	$150,000
Fencing and exterior walls (5,250 LF @ $44.75 lf)	$234,938
Site piping	$3,200,000
Chemical storage area	$50,500
Total (Rounded)	**$90,000,000**

Source: OPUD.

Appendix D
Existing Plant Depreciation Schedule

Table D-1 provides a summary of the depreciated value of the existing Plant through the end of 2025. Beginning on the following page, **Table D-2** provides the full depreciation schedule.

Table D-1. Existing Plant Depreciation Summary

Asset Category	Accumulated Depreciation Through 2025
Land	-
Buildings & Improvements - General Plant	$350,174
Admin Building	$72,327
Office Equip & Furnishings	$23,544
Maint. & Auto Equipment	$854,606
WWTF Equipment	$1,485,909
Utility Facilities - Sewer Treatment	$14,865,134
Utility Facilities - Sewer Disposal	$186,255
Sewage Treatment Plant	$2,276,532
Total (Rounded)	**$20,114,480**

Source: OPUD.

Table D-2
OPUD Sewer Capacity Charge Nexus Study
Existing Plant Depreciation Schedule

Category	Account	Fiscal Year	Fund	Object	Dept	Description	Date Acquired	Cost Basis	Useful Life	Annual Depreciation	Years of Service	Accumulated Depreciation Through 2025
Land	13.12100.00.0	1956-57	13	12100	0	13102 SEWER PL LAND	7/1/1956	$7,220		-		
Land	13.12100.36.0	1957-58	13	12100	36	12/13-112 OFF 9TH AVE	7/1/1957	$2,750		-		
Land	13.12100.36.0	1983-84	13	12100	36	LAND 4616 OLIVEHURST AVE	6/30/1984	$16,818		-		
Land	13.12100.36.0	2025-26	13	12100	36	3908 MARY AVENENUE	4/15/2026	$1,940,235				
Buildings & Improvements - General Plant	13.12200.36.0	1984-85	13	12200	36	PARKING LOT	12/21/1984	$12,241	20	$612	20	$12,241
Buildings & Improvements - General Plant	13.12200.36.0	1985-86	13	12200	36	13-112 AGGREGATE BIN	4/18/1986	$12,908	20	$645	20	$12,908
Buildings & Improvements - General Plant	13.12200.36.0	1988-89	13	12200	36	FENCE CORP YARD	12/16/1988	$541	25	$22	25	$541
Buildings & Improvements - General Plant	13.12200.36.0	1989-90	13	12200	36	PARKING LOT	11/17/1989	$6,160	15	$411	15	$6,160
Buildings & Improvements - General Plant	13.12200.36.0	1989-90	13	12200	36	IMPROVEMENTS	4/4/1990	$4,526	15	$302	15	$4,526
Buildings & Improvements - General Plant	13.12200.36.0	1990-91	13	12200	36	4600 3HP CONDENSER	6/10/1991	$1,908	15	$127	15	$1,908
Buildings & Improvements - General Plant	13.12200.36.0	1991-92	13	12200	36	PUMP IMPROVEMENTS	1/17/1992	$1,837	15	$122	15	$1,837
Buildings & Improvements - General Plant	13.12200.36.0	1991-92	13	12200	36	IMPROVEMENTS	6/19/1992	$10,872	15	$725	15	$10,872
Buildings & Improvements - General Plant	13.12200.36.0	1992-93	13	12200	36	SHOP BLDG MARY AVE	2/15/1993	$209,119	40	$5,228	33	$170,328
Buildings & Improvements - General Plant	13.12200.36.0	1993-94	13	12200	36	FENCING	9/3/1993	$498	25	$20	25	$498
Buildings & Improvements - General Plant	13.12200.36.0	1995-96	13	12200	36	ROOF - WWTP	10/13/1995	$6,500	15	$433	15	$6,500
Buildings & Improvements - General Plant	13.12200.36.0	1996-97	13	12200	36	1/3 PARKING LOT	6/15/1997	$1,681	30	$56	29	$1,620
Buildings & Improvements - General Plant	13.12200.36.0	2002-03	13	12200	36	1/2 ALARM SYSTEM	2/21/2003	$2,325	15	$155	15	$2,325
Buildings & Improvements - General Plant	13.12200.36.0	2002-03	13	12200	36	FENCE - WWTP	4/1/2003	$56,050	25	$2,242	23	$51,006
Buildings & Improvements - General Plant	13.12200.36.0	2003-04	13	12200	36	1/3 ADMIN OFFICE ADDITION	10/1/2003	$49,948	40	$1,249	23	$27,159
Buildings & Improvements - General Plant	13.12200.36.0	2003-04	13	12200	36	1/3 OFFICE ADD'N LANDSCAPE	10/1/2003	$904	15	$60	15	$904
Buildings & Improvements - General Plant	13.12200.36.0	2003-04	13	12200	36	1/3 OFFICE ADD'N DECOR	10/1/2003	$1,132	10	$113	10	$1,132
Buildings & Improvements - General Plant	13.12200.36.0	2006-07	13	12200	36	A/C UNIT FOR LAB	8/1/2006	$3,000	10	$300	10	$3,000
Buildings & Improvements - General Plant	13.12200.36.0	2006-07	13	12200	36	NEW WATER LINE - 1970 9TH AVE	10/6/2006	$625	10	$63	10	$625
Buildings & Improvements - General Plant	13.12200.36.0	2013-14	13	12200	36	22' X 6' SLIDING GATE - MARY AVENUE	9/30/2013	$5,518	10	$552	10	$5,518
Buildings & Improvements - General Plant	13.12200.36.0	2016-17	13	12200	36	5 TON BRYANT PACKAGE UNIT	4/26/2017	$6,380	15	$425	9	$3,828
Buildings & Improvements - General Plant	13.12200.36.0	2020-21	13	12200	36	PAVING	12/8/2020	$7,400	10	$740	6	$3,330
Buildings & Improvements - General Plant	13.12200.36.0	2021-22	13	12200	36	SECURITY SYSTEM	5/4/2022	$51,743	10	$5,174	4	$12,936
Buildings & Improvements - General Plant	13.12200.36.0	2023-24	13	12200	36	SECURITY SYSTEM	8/24/2023	$15,300	10	$1,530	3	$3,825
Buildings & Improvements - General Plant	13.12200.36.0	2023-24	13	12200	36	HVAC UNIT	9/21/2023	$10,900	10	$1,090	3	$2,725
Buildings & Improvements - General Plant	13.12200.36.0	2023-24	13	12200	36	GATE - MARY AVENUE	6/19/2024	$12,817	10	$1,282	2	$1,923
Admin Building	13.12201.36.0	1977-78	13	12201	36	12/13-203 OFF 9TH AVE	7/1/1977	$17,387	40	$435	40	$17,387
Admin Building	13.12201.36.0	1977-78	13	12201	36	PARKING LOT PAVING	7/1/1977	$3,000	20	$150	20	$3,000
Admin Building	13.12201.36.0	1982-83	13	12201	36	REMODEL/PAVING/PKG LOT	9/30/1982	$7,092	15	$473	15	$7,092
Admin Building	13.12201.36.0	1985-86	13	12201	36	CARPETS	6/30/1986	$184	15	$12	15	$184
Admin Building	13.12201.36.0	1986-87	13	12201	36	COMPUTER RM ADDN	10/1/1986	$7,918	15	$528	15	$7,918
Admin Building	13.12201.36.0	1986-87	13	12201	36	COMPUTER ROOM	10/1/1986	$4,065	15	$271	15	$4,065
Admin Building	13.12201.36.0	1993-94	13	12201	36	OFFICE EXPANSION	8/19/1993	$23,143	40	$579	33	$18,467
Admin Building	13.12201.36.0	1993-94	13	12201	36	OFFICE EXPANSION	8/19/1993	$5,592	40	$140	33	$4,462
Admin Building	13.12201.36.0	2016-17	13	12201	36	12X260 MOBILE MODULAR	6/1/2017	$18,426	20	$921	9	$8,292
Admin Building	13.12201.36.0	2023-24	13	12201	36	HVAC UNIT	9/14/2023	$8,350	10	$835	3	$1,461
	13.12201.36.0	1899-00	13	12201	36	ROUNDING		($0)			0	
Office Equip & Furnishings	13.12300.36.0	1960-61	13	12300	36	MAPS/BOOKS/SOFTWARE	7/1/1960	$8,491	15	$566	15	$8,491
Office Equip & Furnishings	13.12300.36.0	1980-81	13	12300	36	FILE CABINETS/CASE/TYPEWR	4/6/1981	$3,144	10	$314	10	$3,144
Office Equip & Furnishings	13.12300.36.0	1988-89	13	12300	36	CABINETS - LAB	3/17/1989	$1,372	20	$69	20	$1,372

Table D-2
OPUD Sewer Capacity Charge Nexus Study
Existing Plant Depreciation Schedule

Category	Account	Fiscal Year	Fund	Object	Dept	Description	Date Acquired	Cost Basis	Useful Life	Annual Depreciation	Years of Service	Accumulated Depreciation Through 2025
Office Equip & Furnishings	13.12300.36.0	1994-95	13	12300	36	STAIRS FD SHOP BLDG	6/15/1995	$1,400	25	$56	25	$1,400
Office Equip & Furnishings	13.12300.36.0	2002-03	13	12300	36	1/2 ANTENNA	11/15/2002	$355	7	$51	7	$355
Office Equip & Furnishings	13.12300.36.0	2002-03	13	12300	36	MAYTAG DRYER (1/3)	5/30/2003	$284	5	$57	5	$284
Office Equip & Furnishings	13.12300.36.0	2003-04	13	12300	36	1/2 COMPUTER DESK	2/6/2004	$348	10	$35	10	$348
Office Equip & Furnishings	13.12300.36.0	2004-05	13	12300	36	ICE MACHINE	10/15/2004	$1,700	7	$243	7	$1,700
Office Equip & Furnishings	13.12300.36.0	2004-05	13	12300	36	CORNER DESK/BOOKCASE	11/12/2004	$618	10	$62	10	$618
Office Equip & Furnishings	13.12300.36.0	2004-05	13	12300	36	SAMSONITE LEATHER CASE	1/21/2005	$188	10	$19	10	$188
Office Equip & Furnishings	13.12300.36.0	2004-05	13	12300	36	ADOBE ACROBAT 6.0 SOFTWARE	2/4/2005	$241	5	$48	5	$241
Office Equip & Furnishings	13.12300.36.0	2004-05	13	12300	36	FILE CABINET	3/18/2005	$386	10	$39	10	$386
Office Equip & Furnishings	13.12300.36.0	2004-05	13	12300	36	CASSETTE TRAY FOR COPIER	4/15/2005	$405	5	$81	5	$405
Office Equip & Furnishings	13.12300.36.0	2004-05	13	12300	36	MISSING ITEMS DETAILS	6/30/2005	$380	5	$76	5	$380
Office Equip & Furnishings	13.12300.36.0	2005-06	13	12300	36	LAPTOP COMPUTER MOUNT	9/2/2005	$164	7	$23	7	$164
Office Equip & Furnishings	13.12300.36.0	2005-06	13	12300	36	METER 3STAR BENCH/PROBE	9/30/2005	$1,352	5	$270	5	$1,352
Office Equip & Furnishings	13.12300.36.0	2005-06	13	12300	36	OPTIPLEX 170L, MICRO TOWER, PENT	1/20/2006	$1,981	5	$396	5	$1,981
Office Equip & Furnishings	13.12300.36.0	2005-06	13	12300	36	DELL FINANCIAL SERVICES	4/28/2006	$736	5	$147	5	$736
Maint. & Auto Equipment	13.12550.36.0	1972-73	13	12550	36	72 GMC PU TC5142515	1/1/1973	$1,172	8	$147	8	$1,172
Maint. & Auto Equipment	13.12550.36.0	1979-80	13	12550	36	WHEEL LOADER	1/1/1980	$11,996	10	$1,200	10	$11,996
Maint. & Auto Equipment	13.12550.36.0	1981-82	13	12550	36	VAR EQUIP/JACKS/TOOLS/MTR	7/17/1981	$5,776	10	$578	10	$5,776
Maint. & Auto Equipment	13.12550.36.0	1985-86	13	12550	36	PIPE & CABLE LOCATOR	11/22/1985	$447	10	$45	10	$447
Maint. & Auto Equipment	13.12550.36.0	1985-86	13	12550	36	FLUSHER	12/20/1985	$12,240	10	$1,224	10	$12,240
Maint. & Auto Equipment	13.12550.36.0	1987-88	13	12550	36	LAB EQUIPMENT	6/30/1988	$548	10	$55	10	$548
Maint. & Auto Equipment	13.12550.36.0	1988-89	13	12550	36	FENCE CORP YARD	12/16/1988	$270	25	$11	25	$270
Maint. & Auto Equipment	13.12550.36.0	1988-89	13	12550	36	BRISTOL CIRC RECORDER	4/6/1989	$1,381	15	$92	15	$1,381
Maint. & Auto Equipment	13.12550.36.0	1988-89	13	12550	36	UTILITY TRAILER	6/2/1989	$500	15	$33	15	$500
Maint. & Auto Equipment	13.12550.36.0	1989-90	13	12550	36	FLOW METER	12/28/1989	$2,272	15	$151	15	$2,272
Maint. & Auto Equipment	13.12550.36.0	1990-91	13	12550	36	VAR EQUIP/TOOLS/MOWERS	4/19/1991	$11,093	10	$1,109	10	$11,093
Maint. & Auto Equipment	13.12550.36.0	1990-91	13	12550	36	GENRT/METER/SAMPLER	5/31/1991	$3,367	7	$481	7	$3,367
Maint. & Auto Equipment	13.12550.36.0	1990-91	13	12550	36	ELECTRIC EEL	6/11/1991	$558	15	$37	15	$558
Maint. & Auto Equipment	13.12550.36.0	1992-93	13	12550	36	JON BOAT/TRENCHER	8/7/1992	$3,290	7	$470	7	$3,290
Maint. & Auto Equipment	13.12550.36.0	1992-93	13	12550	36	93 FORD RANGER	2/19/1993	$4,033	5	$807	5	$4,033
Maint. & Auto Equipment	13.12550.36.0	1993-94	13	12550	36	PARTS WASHER	10/29/1993	$385	10	$39	10	$385
Maint. & Auto Equipment	13.12550.36.0	1993-94	13	12550	36	CONDUCTANCE METER	10/29/1993	$825	10	$83	10	$825
Maint. & Auto Equipment	13.12550.36.0	1993-94	13	12550	36	MONITOR	4/1/1994	$1,305	10	$131	10	$1,305
Maint. & Auto Equipment	13.12550.36.0	1993-94	13	12550	36	TITRACTOR AMPEROMTRC	4/15/1994	$970	10	$97	10	$970
Maint. & Auto Equipment	13.12550.36.0	1994-95	13	12550	36	94 FORD RANGER	8/26/1994	$5,292	5	$1,058	5	$5,292
Maint. & Auto Equipment	13.12550.36.0	1994-95	13	12550	36	PORTABLE AIR COMPRESS	8/26/1994	$5,094	7	$728	7	$5,094
Maint. & Auto Equipment	13.12550.36.0	1996-97	13	12550	36	CONTROL PANEL	6/20/1997	$2,917	10	$292	10	$2,917
Maint. & Auto Equipment	13.12550.36.0	1997-98	13	12550	36	PIPE/SEWER LOCATOR	5/15/1998	$985	10	$99	10	$985
Maint. & Auto Equipment	13.12550.36.0	1998-99	13	12550	36	F550 SERVICE TRUCK	5/31/1999	$17,362	10	$1,736	10	$17,362
Maint. & Auto Equipment	13.12550.36.0	1999-00	13	12550	36	ADDNS TO F550 TRUCK	7/15/1999	$815	5	$163	5	$815
Maint. & Auto Equipment	13.12550.36.0	1999-00	13	12550	36	HONDA WATER PUMP	11/5/1999	$520	10	$52	10	$520
Maint. & Auto Equipment	13.12550.36.0	1999-00	13	12550	36	JD LAWN TRACTOR	2/25/2000	$2,762	10	$276	10	$2,762
Maint. & Auto Equipment	13.12550.36.0	2000-01	13	12550	36	1/2 SCISSOR LIFT	3/9/2001	$482	5	$96	5	$482
Maint. & Auto Equipment	13.12550.36.0	2002-03	13	12550	36	1/2 WELDER	12/13/2002	$853	7	$122	7	$853

Table D-2
OPUD Sewer Capacity Charge Nexus Study
Existing Plant Depreciation Schedule

Category	Account	Fiscal Year	Fund	Object	Dept	Description	Date Acquired	Cost Basis	Useful Life	Annual Depreciation	Years of Service	Accumulated Depreciation Through 2025
Maint. & Auto Equipment	13.12550.36.0	2002-03	13	12550	36	1/3 FOUR POST LIFT	12/27/2002	$2,833	10	$283	10	$2,833
Maint. & Auto Equipment	13.12550.36.0	2002-03	13	12550	36	1/2 GAS SAW	3/21/2003	$418	5	$84	5	$418
Maint. & Auto Equipment	13.12550.36.0	2003-04	13	12550	36	1/2 UTILITY TRUCK	2/1/2004	$1,520	5	$304	5	$1,520
Maint. & Auto Equipment	13.12550.36.0	2004-05	13	12550	36	JOHN DEERE 757 MOWER	8/6/2004	$2,551	10	$255	10	$2,551
Maint. & Auto Equipment	13.12550.36.0	2004-05	13	12550	36	TOOL CHEST & CART	11/12/2004	$965	10	$97	10	$965
Maint. & Auto Equipment	13.12550.36.0	2004-05	13	12550	36	BACKHOE REPAIR	5/13/2005	$1,581	5	$316	5	$1,581
Maint. & Auto Equipment	13.12550.36.0	2004-05	13	12550	36	MOWER REPAIRS	5/13/2005	$2,378	5	$476	5	$2,378
Maint. & Auto Equipment	13.12550.36.0	2004-05	13	12550	36	REPLACE ENGINE IN 73 GMC PICKUP	6/24/2005	$595	5	$119	5	$595
Maint. & Auto Equipment	13.12550.36.0	2004-05	13	12550	36	2005 FORD RANGER 4X2 2DR TRUCK	6/10/2005	$6,250	10	$625	10	$6,250
Maint. & Auto Equipment	13.12550.36.0	2005-06	13	12550	36	1/2 2006 JEEP LIBERTY PUB WKS	9/30/2005	$8,038	5	$1,608	5	$8,038
Maint. & Auto Equipment	13.12550.36.0	2005-06	13	12550	36	HOSES & SUPPLIES	11/10/2005	$1,978	5	$396	5	$1,978
Maint. & Auto Equipment	13.12550.36.0	2005-06	13	12550	36	2006 FORD RANGER	12/9/2005	$6,426	10	$643	10	$6,426
Maint. & Auto Equipment	13.12550.36.0	2005-06	13	12550	36	1/2 INTERSTATE CAR HAUL TRAILER	2/17/2006	$3,039	10	$304	10	$3,039
Maint. & Auto Equipment	13.12550.36.0	2005-06	13	12550	36	LN CURTIS & SONS	2/3/2006	$319	10	$32	10	$319
Maint. & Auto Equipment	13.12550.36.0	2005-06	13	12550	36	LN CURTIS & SONS	4/14/2006	$10,492	10	$1,049	10	$10,492
Maint. & Auto Equipment	13.12550.36.0	2006-07	13	12550	36	2007 FORD RANGER	11/27/2006	$12,464	5	$2,493	5	$12,464
Maint. & Auto Equipment	13.12550.36.0	2007-08	13	12550	36	2008 FORD F450	12/17/2007	$39,538	5	$7,908	5	$39,538
Maint. & Auto Equipment	13.12550.36.0	2007-08	13	12550	36	2008 FORD RANGER 4X2 2DR	12/17/2007	$6,176	5	$1,235	5	$6,176
Maint. & Auto Equipment	13.12550.36.0	2007-08	13	12550	36	2 BALDOR TS35T	1/31/2008	$34,942	10	$3,494	10	$34,942
Maint. & Auto Equipment	13.12550.36.0	2007-08	13	12550	36	110 COMPACT 4WD BACKHOE	3/25/2008	$19,828	20	$991	18	$17,515
Maint. & Auto Equipment	13.12550.36.0	2007-08	13	12550	36	VACCON 2008 INTERNATIONAL	5/21/2008	$318,755	20	$15,938	18	$284,170
Maint. & Auto Equipment	13.12550.36.0	2009-10	13	12550	36	1997 FREIGHTLINER SERVICE TRUCK	5/10/2010	$9,999	10	$1,000	10	$9,999
Maint. & Auto Equipment	13.12550.36.0	2011-12	13	12550	36	AR CAMERA	6/8/2012	$9,872	10	$987	10	$9,872
Maint. & Auto Equipment	13.12550.36.0	2012-13	13	12550	36	COLLECTION CAMERA SYSTEM	10/22/2012	$19,405	10	$1,940	10	$19,405
Maint. & Auto Equipment	13.12550.36.0	2013-14	13	12550	36	2013 FORD E 150 VAN	9/25/2013	$23,756	10	$2,376	10	$23,756
Maint. & Auto Equipment	13.12550.36.0	2013-14	13	12550	36	TRAILER - MOUNTED PUMP & PARTS REPAIR	10/16/2013	$8,469	5	$1,694	5	$8,469
Maint. & Auto Equipment	13.12550.36.0	2013-14	13	12550	36	REBUILD BROWN BEAR	1/9/2014	$2,342	5	$468	5	$2,342
Maint. & Auto Equipment	13.12550.36.0	2013-14	13	12550	36	MULE - REPAIRS	3/6/2014	$2,410	5	$482	5	$2,410
Maint. & Auto Equipment	13.12550.36.0	2015-16	13	12550	36	2014 FORD F150	8/21/2015	$23,381	7	$3,340	7	$23,381
Maint. & Auto Equipment	13.12550.36.0	2015-16	13	12550	36	2015 FORD ESCAPE (PW)	6/9/2016	$9,024	7	$1,289	7	$9,024
Maint. & Auto Equipment	13.12550.36.0	2015-16	13	12550	36	CAMERA - PATHFINDER ZOOM PE3400	10/19/2015	$28,358	10	$2,836	10	$27,649
Maint. & Auto Equipment	13.12550.36.0	2016-17	13	12550	36	BACKHOE & 2 BUCKETS	9/19/2016	$45,956	20	$2,298	10	$18,383
Maint. & Auto Equipment	13.12550.36.0	2017-18	13	12550	36	2018 FORD F150 1FTMF1CB8JKD60075	3/14/2018	$20,288	7	$2,898	7	$20,288
Maint. & Auto Equipment	13.12550.36.0	2017-18	13	12550	36	2018 FORD F150 1FTMF1CB6JKD60074	3/14/2018	$20,288	7	$2,898	7	$20,288
Maint. & Auto Equipment	13.12550.36.0	2018-19	13	12550	36	AMERICAN LANDMASTER UTV	7/10/2018	$6,327	7	$904	7	$5,875
Maint. & Auto Equipment	13.12550.36.0	2019-20	13	12550	36	2019 FORD 550 DUMP TRUCK(1/2) 04367	9/23/2019	$30,933	10	$3,093	7	$17,013
Maint. & Auto Equipment	13.12550.36.0	2019-20	13	12550	36	2019 FORD RANGER PICKUP 1FTER1EH1KLA95024	9/26/2019	$26,690	7	$3,813	7	$20,971
Maint. & Auto Equipment	13.12550.36.0	2019-20	13	12550	36	30 FT TRAILER FOR BACKHOE TRANSPORT	12/12/2019	$10,691	10	$1,069	7	$5,880
Maint. & Auto Equipment	13.12550.36.0	2019-20	13	12550	36	ATV630 TYPE 1 460V	12/27/2019	$6,650	5	$1,330	5	$6,650
Maint. & Auto Equipment	13.12550.36.0	2022-23	13	12550	36	2023 FORD RANGER 1FTER1EH3PLE00319	12/15/2022	$26,758	7	$3,823	4	$9,557
Maint. & Auto Equipment	13.12550.36.0	2023-24	13	12550	36	2023 FORD RANGER 1FTER1EH3PLE00621	12/19/2023	$26,758	7	$3,823	3	$9,557
Maint. & Auto Equipment	13.12550.36.0	2022-23	13	12550	36	TAYLOR DUNN BF 3000 ELECTRIC FLATBED VEHICLE	3/15/2023	$27,784	7	$3,969	3	$9,923
Maint. & Auto Equipment	13.12550.36.0	2024-25	13	12550	36	COLLECTION VAN CAMERA SYSTEM	7/1/2024	$176,501	10	$17,650	2	$17,650
Maint. & Auto Equipment	13.12550.36.0	2024-25	13	12550	36	2024 BOB CAT E60 S/N 17208	8/30/2024	$88,243	10	$8,824	2	$4,062

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Maint. & Auto Equipment	13.12550.36.0	2024-25	13	12550	36	2024 FORD DUMP TRUCK PU VIN 1FDNF6DE8RDF01149	10/4/2024	$170,086	10	$17,009	2	$8,504
Maint. & Auto Equipment	13.12550.36.0	1899-00	13	12550	36	ROUNDING		$1			0	
WWTF Equipment	13.12551.32.0	1991-92	13	12551	32	SEWER TREATMENT PLANT	11/1/1991	$656,741	30	$21,891	30	$656,741
WWTF Equipment	13.12551.32.0	1991-92	13	12551	32	SEWER TREATMENT PLANT	11/1/1991	$403,098	30	$13,437	30	$403,098
WWTF Equipment	13.12551.32.0	1996-97	13	12551	32	GAS DETECTOR	4/11/1997	$1,402	10	$140	10	$1,402
WWTF Equipment	13.12551.32.0	1996-97	13	12551	32	SCREEN/WASH COMPACTOR	5/9/1997	$69,110	30	$2,304	29	$66,415
WWTF Equipment	13.12551.32.0	2003-04	13	12551	32	INFLUENT SAMPLER	10/31/2003	$4,688	10	$469	10	$4,688
WWTF Equipment	13.12551.32.0	2005-06	13	12551	32	LN CURTIS & SONS	2/17/2006	$3,454	10	$345	10	$3,454
WWTF Equipment	13.12551.32.0	2006-07	13	12551	32	SLUDGE HANDLING EQUIPMENT	8/15/2006	$140,652	20	$7,033	20	$133,036
WWTF Equipment	13.12551.32.0	2006-07	13	12551	32	BUSINESS CARD 6922 JT	3/20/2007	$2,817	10	$282	10	$2,817
WWTF Equipment	13.12551.32.0	2006-07	13	12551	32	PIPING	5/8/2007	$3,119	10	$312	10	$3,119
WWTF Equipment	13.12551.32.0	2010-11	13	12551	32	CHOPPER PUMP	11/2/2010	$11,480	15	$765	15	$11,225
WWTF Equipment	13.12551.32.0	2010-11	13	12551	32	ANALOG INPUT CARD	6/10/2011	$9,841	10	$984	10	$9,841
WWTF Equipment	13.12551.32.0	2010-11	13	12551	32	PROCESSOR/OUTPUT CARD	6/17/2011	$9,428	10	$943	10	$9,428
WWTF Equipment	13.12551.32.0	2010-11	13	12551	32	ANALOG CARD	6/24/2011	$3,797	10	$380	10	$3,797
WWTF Equipment	13.12551.32.0	2011-12	13	12551	32	VFD ON SURFACE AREATOR	9/16/2011	$8,584	10	$858	10	$8,584
WWTF Equipment	13.12551.32.0	2011-12	13	12551	32	REDUCTION SET	9/26/2011	$7,688	10	$769	10	$7,688
WWTF Equipment	13.12551.32.0	2011-12	13	12551	32	SCADA COMPUTER	1/24/2012	$2,341	5	$468	5	$2,341
WWTF Equipment	13.12551.32.0	2011-12	13	12551	32	FLOW TRANSMITTER/INFLUENT TRANSMITTER	6/7/2012	$2,404	10	$240	10	$2,404
WWTF Equipment	13.12551.32.0	2011-12	13	12551	32	COVER - CARPORT FOR CALGON	6/10/2012	$4,037	20	$202	14	$2,810
WWTF Equipment	13.12551.32.0	2011-12	13	12551	32	FILTER PANEL	6/30/2012	$36,550	5	$7,310	5	$36,550
WWTF Equipment	13.12551.32.0	2013-14	13	12551	32	FILTER PANEL	1/24/2014	$1,886	5	$377	5	$1,886
WWTF Equipment	13.12551.32.0	2021-22	13	12551	32	UV PANEL REPLACEMENT/REHAB	10/1/2021	$203,374	15	$13,558	5	$47,454
WWTF Equipment	13.12551.32.0	2021-22	13	12551	32	PANEL FILTER EPLACEMENT/REHAB	6/27/2022	$134,030	15	$8,935	4	$31,274
WWTF Equipment	13.12551.32.0	2022-23	13	12551	32	10 40HO UV Modules - 30 Photocell Sensors Lamps	8/18/2022	$202,823	15	$13,522	4	$33,804
WWTF Equipment	13.12551.32.0	2024-25	13	12551	32	FLOW METER SENSOR/TRANSMITTER	7/1/2024	$41,039	10	$2,052	2	$2,052
Utility Facilities - Sewer Collection	13.12650.31.0	1940-41	13	12650	31	MAIN GARDEN ACRES	7/1/1940	$10,000	50	$200	50	$10,000
Utility Facilities - Sewer Collection	13.12650.31.0	1956-57	13	12650	31	13-108 MAIN	7/1/1956	$564,000	50	$11,280	50	$564,000
Utility Facilities - Sewer Collection	13.12650.31.0	1956-57	13	12650	31	LIFT STATION-ARBOGA	7/1/1956	$13,430	30	$448	30	$13,430
Utility Facilities - Sewer Collection	13.12650.31.0	1956-57	13	12650	31	LIFT STATION-11TH ST	7/1/1956	$19,600	30	$653	30	$19,600
Utility Facilities - Sewer Collection	13.12650.31.0	1961-62	13	12650	31	LIFT STATION - JOHNSON	7/1/1961	$15,600	30	$520	30	$15,600
Utility Facilities - Sewer Collection	13.12650.31.0	1961-62	13	12650	31	MAINS - JOHNSON PARK	7/1/1961	$33,500	50	$670	50	$33,500
Utility Facilities - Sewer Collection	13.12650.31.0	1962-63	13	12650	31	LIFT ST SKYCREST	7/1/1962	$6,600	30	$220	30	$6,600
Utility Facilities - Sewer Collection	13.12650.31.0	1962-63	13	12650	31	MAIN SKYCREST	7/1/1962	$22,560	50	$451	50	$22,560
Utility Facilities - Sewer Collection	13.12650.31.0	1963-64	13	12650	31	MAINS TAHITI	7/1/1963	$29,178	50	$584	50	$29,178
Utility Facilities - Sewer Collection	13.12650.31.0	1968-69	13	12650	31	DUCT JOHNSON PARK	7/1/1968	$669	30	$22	30	$669
Utility Facilities - Sewer Collection	13.12650.31.0	1969-70	13	12650	31	PROJECT NO 8	7/1/1969	$20,092	50	$402	50	$20,092
Utility Facilities - Sewer Collection	13.12650.31.0	1975-76	13	12650	31	LIFT ST LINDAWOOD	7/1/1975	$12,371	30	$412	30	$12,371
Utility Facilities - Sewer Collection	13.12650.31.0	1973-74	13	12650	31	MAIN CROSSING	7/1/1973	$3,180	50	$64	50	$3,180
Utility Facilities - Sewer Collection	13.12650.31.0	1975-76	13	12650	31	LIFT ST LINDAWOOD	7/1/1975	$936	30	$31	30	$936
Utility Facilities - Sewer Collection	13.12650.31.0	1978-79	13	12650	31	REHAB PROGRAM	5/1/1979	$6,689	30	$223	30	$6,689
Utility Facilities - Sewer Collection	13.12650.31.0	1978-79	13	12650	31	REHAB PROGRAM	6/1/1979	$743	30	$25	30	$743
Utility Facilities - Sewer Collection	13.12650.31.0	1981-82	13	12650	31	10TH AVENUE PROJECT	6/30/1982	$15,713	50	$314	44	$13,802
Utility Facilities - Sewer Collection	13.12650.31.0	1982-83	13	12650	31	WET WELL EXHAUST FAN	9/30/1982	$1,123	30	$37	30	$1,123

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Utility Facilities - Sewer Collection	13.12650.31.0	1984-85	13	12650	31	REHAB	6/21/1985	$2,590	30	$86	30	$2,590
Utility Facilities - Sewer Collection	13.12650.31.0	1985-86	13	12650	31	LIFT STATION REPAIRS	10/18/1985	$18,328	30	$611	30	$18,328
Utility Facilities - Sewer Collection	13.12650.31.0	1985-86	13	12650	31	W/S REHAB/EXTENSION	4/18/1986	$4,380	30	$146	30	$4,380
Utility Facilities - Sewer Collection	13.12650.31.0	1985-86	13	12650	31	REHAB ENG	6/30/1986	$844	30	$28	30	$844
Utility Facilities - Sewer Collection	13.12650.31.0	1986-87	13	12650	31	MCGOWAN RD EXIT	4/14/1987	$30,549	50	$611	39	$23,675
Utility Facilities - Sewer Collection	13.12650.31.0	1986-87	13	12650	31	REHAB PROGRAM	6/22/1987	$7,722	30	$257	30	$7,722
Utility Facilities - Sewer Collection	13.12650.31.0	1987-88	13	12650	31	MANHOLE/HYDRANT PROJ	11/20/1987	$54	15	$4	15	$54
Utility Facilities - Sewer Collection	13.12650.31.0	1987-88	13	12650	31	MANHOLE PROJECT	1/22/1988	$21,999	15	$1,467	15	$21,999
Utility Facilities - Sewer Collection	13.12650.31.0	1987-88	13	12650	31	LIFT STATION	6/30/1988	$17,496	30	$583	30	$17,496
Utility Facilities - Sewer Collection	13.12650.31.0	1988-89	13	12650	31	MANHOLE	5/18/1989	$1,800	15	$120	15	$1,800
Utility Facilities - Sewer Collection	13.12650.31.0	1989-90	13	12650	31	REHAB PROGRAM	8/18/1989	$9,175	15	$612	15	$9,175
Utility Facilities - Sewer Collection	13.12650.31.0	1991-92	13	12650	31	H33 24X48X12	6/19/1992	$5,545	7	$792	7	$5,545
Utility Facilities - Sewer Collection	13.12650.31.0	1992-93	13	12650	31	IMPROVE LIFT STN #4	10/16/1992	$12,639	15	$843	15	$12,639
Utility Facilities - Sewer Collection	13.12650.31.0	1993-94	13	12650	31	PUMP - SKYCREST	1/7/1994	$18,773	15	$1,252	15	$18,773
Utility Facilities - Sewer Collection	13.12650.31.0	1994-95	13	12650	31	17 MANHOLES	12/9/1994	$4,250	15	$283	15	$4,250
Utility Facilities - Sewer Collection	13.12650.31.0	1995-96	13	12650	31	RAISE 6 MANHOLE COVERS	9/15/1995	$1,800	15	$120	15	$1,800
Utility Facilities - Sewer Collection	13.12650.31.0	1995-96	13	12650	31	LIFT STATION PUMP	6/18/1996	$7,463	15	$498	15	$7,463
Utility Facilities - Sewer Collection	13.12650.31.0	1996-97	13	12650	31	RAISE 4 MANHOLE COV	8/30/1996	$1,400	15	$93	15	$1,400
Utility Facilities - Sewer Collection	13.12650.31.0	1997-98	13	12650	31	8TH LIFT STATION	11/7/1997	$7,305	25	$292	25	$7,305
Utility Facilities - Sewer Collection	13.12650.31.0	1998-99	13	12650	31	AIR COND FOR LAB	9/25/1998	$3,150	20	$158	20	$3,150
Utility Facilities - Sewer Collection	13.12650.31.0	1998-99	13	12650	31	11TH AVE LIFTSTATION	2/24/1999	$7,700	25	$308	25	$7,700
Utility Facilities - Sewer Collection	13.12650.31.0	2000-01	13	12650	31	REHAB LIFT STATION	10/31/2000	$19,131	15	$1,275	15	$19,131
Utility Facilities - Sewer Collection	13.12650.31.0	2001-02	13	12650	31	LIFTSTATION 3 RENOVATIONS	12/31/2001	$28,579	30	$953	25	$22,463
Utility Facilities - Sewer Collection	13.12650.31.0	2001-02	13	12650	31	LIFTSTATION 3 BUBBLER SYS	1/25/2002	$2,698	10	$270	10	$2,698
Utility Facilities - Sewer Collection	13.12650.31.0	2002-03	13	12650	31	LIFTSTATION #2 RENOVATION	11/15/2002	$65,567	25	$2,623	24	$59,448
Utility Facilities - Sewer Collection	13.12650.31.0	2003-04	13	12650	31	SEWER LIFT STATION	2/20/2004	$6,270	25	$251	22	$5,412
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	INSTALL SEWAGE PUMP (LS #1)	7/23/2004	$280	10	$28	10	$280
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	METER SERVICE (LS #1)	7/23/2004	$3,715	15	$248	15	$3,715
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	VAUGHAN PEDESTAL CHOPPER PUMP (LS #1)	7/23/2004	$14,660	15	$977	15	$14,660
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	MOTOR CONTROL PANEL (LS #1)	9/3/2004	$14,896	15	$993	15	$14,896
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	PG&E FEES	10/24/2004	$1,976	15	$132	15	$1,976
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	PUMP EMERGENCY ELECTRICAL (LS 1)	11/24/2004	$160	15	$11	15	$160
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	ULTRASONIC LEVEL SENSOR & PANELBOARD (LS #1)	11/24/2004	$4,564	15	$304	15	$4,564
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	VAUGHAN PEDESTAL CHOPPER PUMP (LS #1)	12/24/2004	$14,660	15	$977	15	$14,660
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	VAUGHAN SUBMERSIBLE CHOPPER PUMP (LS #6)	1/21/2005	$14,949	15	$997	15	$14,949
Utility Facilities - Sewer Collection	13.12650.31.0	2004-05	13	12650	31	MISSING ITEMS DETAILS	6/30/2005	$104,835	15	$6,989	15	$104,835
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	LIFT STATION #2 - REPAIR PLUMBING	1/6/2006	$198	15	$13	15	$198
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	PUMP #3 - PUMP REPAIR	1/6/2006	$315	15	$21	15	$315
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	LIFT STATION #9 - VALVE REPAIR	1/6/2006	$560	15	$37	15	$560
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	LIFT STATION #3 - PUMP REPAIR	1/6/2006	$2,367	15	$158	15	$2,367
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	VALLEY PUMP & MOTOR WORKS	2/3/2006	$106	15	$7	15	$106
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	VALLEY PUMP & MOTOR WORKS	2/3/2006	$540	15	$36	15	$540
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	LIFT STATION #1 REPAIRS ON PUMP	2/3/2006	$630	15	$42	15	$630
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	VALLEY PUMP & MOTOR WORKS	2/3/2006	$862	15	$57	15	$862

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Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	LIFT STATION #10 PUMP & MOTOR ASSEMBLY	2/17/2006	$1,680	15	$112	15	$1,680
Utility Facilities - Sewer Collection	13.12650.31.0	2005-06	13	12650	31	VALLEY PUMP & MOTOR WORKS	3/3/2006	$1,650	15	$110	15	$1,650
Utility Facilities - Sewer Collection	13.12650.31.0	2006-07	13	12650	31	LIFT STATION PUMP, MOTOR, PANEL	3/20/2007	$14,128	20	$706	19	$13,186
Utility Facilities - Sewer Collection	13.12650.31.0	2008-09	13	12650	31	L/S 14 PUMPS 1 & 2	12/11/2008	$17,472	15	$1,165	15	$17,472
Utility Facilities - Sewer Collection	13.12650.31.0	2008-09	13	12650	31	L/S 14	1/30/2009	$5,741	15	$383	15	$5,741
Utility Facilities - Sewer Collection	13.12650.31.0	2009-10	13	12650	31	VAUGHN SUBMERSIBLE CHOPPER PUMP	9/25/2009	$9,422	15	$628	15	$9,422
Utility Facilities - Sewer Collection	13.12650.31.0	2009-10	13	12650	31	PUMP PARTS	10/2/2009	$7,961	15	$531	15	$7,961
Utility Facilities - Sewer Collection	13.12650.31.0	2010-11	13	12650	31	VAULT LID	10/8/2010	$2,382	20	$119	16	$1,756
Utility Facilities - Sewer Collection	13.12650.31.0	2012-13	13	12650	31	SCADA SYSTEM	11/21/2012	$15,888	6	$2,648	6	$15,888
Utility Facilities - Sewer Collection	13.12650.31.0	2013-14	13	12650	31	SUBMERSIBLE CHOPPER PUMP	9/4/2013	$8,211	10	$821	10	$8,211
Utility Facilities - Sewer Collection	13.12650.31.0	2013-14	13	12650	31	LIFT STATION #8 - PUMP 1	2/21/2014	$3,093	5	$619	5	$3,093
Utility Facilities - Sewer Collection	13.12650.31.0	2013-14	13	12650	31	LIFT STATION #8 - PUMP 2	3/3/2014	$2,867	5	$573	5	$2,867
Utility Facilities - Sewer Collection	13.12650.31.0	2014-15	13	12650	31	LIFT STATION TELEMETRY	7/8/2014	$14,562	12	$1,214	12	$13,349
Utility Facilities - Sewer Collection	13.12650.31.0	2014-15	13	12650	31	PUMP - SUBMERSIBLE	12/11/2014	$7,513	7	$1,073	7	$7,513
Utility Facilities - Sewer Collection	13.12650.31.0	2014-15	13	12650	31	PUMP - SUBMERSIBLE MOTOR	12/11/2014	$6,970	7	$996	7	$6,970
Utility Facilities - Sewer Collection	13.12650.31.0	2014-15	13	12650	31	PUMP - VAUGHAN PEDESTAL	1/23/2015	$8,589	7	$1,227	7	$8,589
Utility Facilities - Sewer Collection	13.12650.31.0	2014-15	13	12650	31	PUMP MOTOR	1/23/2015	$3,283	7	$469	7	$3,283
Utility Facilities - Sewer Collection	13.12650.31.0	2014-15	13	12650	31	PUMP - VAUGHAN TRITON	5/6/2015	$9,537	7	$1,362	7	$9,537
Utility Facilities - Sewer Collection	13.12650.31.0	2014-15	13	12650	31	PUMP MOTOR	5/6/2015	$8,783	7	$1,255	7	$8,783
Utility Facilities - Sewer Collection	13.12650.31.0	2017-18	13	12650	31	LIFT STATION AIR SCRUBBER	11/10/2017	$12,890	7	$1,841	7	$12,890
Utility Facilities - Sewer Collection	13.12650.31.0	2017-18	13	12650	31	Godwin CD 150M Dri Prime Pump & Fuel Tank	1/19/2018	$24,928	7	$3,561	7	$24,928
Utility Facilities - Sewer Collection	13.12650.31.0	2018-19	13	12650	31	V311 LHAEG-P/1300 VAC-CON TRUCK	7/1/2018	$435,266	20	$21,763	8	$141,461
Utility Facilities - Sewer Collection	13.12650.31.0	2018-19	13	12650	31	2018 CASE SV340 SSL T4 CAB SKID	6/30/2019	$64,981	20	$3,249	7	$21,119
Utility Facilities - Sewer Collection	13.12650.31.0	2023-24	13	12650	31	VAUGHAN SUBMERSIBLE PUMP	10/13/2023	$15,130	5	$3,026	3	$7,565
Utility Facilities - Sewer Collection	13.12650.31.0	2022-23	13	12650	31	RELIANCE PUMP OVERHAUL & REPAIR	1/16/2023	$11,183	5	$2,237	3	$5,592
Utility Facilities - Sewer Collection	13.12650.31.0	2022-23	13	12650	31	LIFTSTATION #16 PUMP OVERHAUL	2/3/2023	$18,867	5	$3,773	3	$9,433
Utility Facilities - Sewer Collection	13.12650.31.0	2022-23	13	12650	31	LIFT STATION #15 VFD UPGRADE	2/3/2023	$14,760	5	$2,952	3	$7,380
Utility Facilities - Sewer Collection	13.12650.31.0	2022-23	13	12650	31	LIFTSTATION - RIVERSIDE MEADOWS	2/21/2023	$599,720	20	$29,986	3	$74,965
Utility Facilities - Sewer Collection	13.12650.31.0	2022-23	13	12650	31	TSURUMI 3.75 HP MIXER	2/21/2023	$7,273	5	$1,455	3	$3,637
Utility Facilities - Sewer Treatment	13.12650.32.0	1995-96	13	12650	32	MISSING ITEMS DETAILS	6/30/1996	$270,057	40	$6,751	30	$197,305
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	10/15/2004	$1,083	40	$27	22	$562
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	10/1/2004	$1,956	40	$49	22	$1,015
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	10/1/2004	$6,117	40	$153	22	$3,173
Utility Facilities - Sewer Treatment	13.12650.32.0	2005-06	13	12650	32	WWTP EXPANSION & UPGRADE	12/22/2005	$4,191	40	$105	21	$2,051
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	2/4/2005	$1,073	40	$27	21	$552
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	2/4/2005	$58,920	40	$1,473	21	$30,314
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	2/4/2005	$5,449	40	$136	21	$2,803
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	2/4/2005	$5,685	40	$142	21	$2,925
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	2/4/2005	$929	40	$23	21	$478
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	2/4/2005	$32,000	40	$800	21	$16,464
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	3/4/2005	$1,560	40	$39	21	$806
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	3/4/2005	$39,280	40	$982	21	$20,295
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	3/4/2005	$506	40	$13	21	$262
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	3/4/2005	$224	40	$6	21	$116

Table D-2
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Existing Plant Depreciation Schedule

Category	Account	Fiscal Year	Fund	Object	Dept	Description	Date Acquired	Cost Basis	Useful Life	Annual Depreciation	Years of Service	Accumulated Depreciation Through 2025
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	3/4/2005	$29,832	40	$746	21	$15,414
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	4/1/2005	$160,454	40	$4,011	21	$83,236
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	3/4/2005	$1,444,086	40	$36,102	21	$746,123
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	4/1/2005	$1,957,347	40	$48,934	21	$1,015,374
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	4/1/2005	$97,365	40	$2,434	21	$50,508
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	4/29/2005	$217,483	40	$5,437	21	$112,819
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	4/29/2005	$1,436	40	$36	21	$745
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	4/29/2005	$1,661	40	$42	21	$862
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	4/29/2005	$102,527	40	$2,563	21	$53,186
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	5/13/2005	$127,988	40	$3,200	21	$66,650
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	5/13/2005	$324	40	$8	21	$169
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	5/13/2005	$38,419	40	$960	21	$20,007
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	5/27/2005	$5,909	40	$148	21	$3,077
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT	6/30/2005	$7,793,942	40	$194,849	21	$4,076,232
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	5/13/2005	$132,365	40	$3,309	21	$68,929
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	SEWER PLANT (CH2M HILL)	6/24/2005	$127,500	40	$3,188	21	$66,683
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	6/10/2005	$151,618	40	$3,790	21	$79,296
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	6/10/2005	$1,364,562	40	$34,114	21	$713,666
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	5/5/2005	$1,151,894	40	$28,797	21	$599,849
Utility Facilities - Sewer Treatment	13.12650.32.0	2004-05	13	12650	32	WWTP EXPANSION & UPGRADE	6/30/2005	$10,072,948	40	$251,824	21	$5,268,152
Utility Facilities - Sewer Treatment	13.12650.32.0	2005-06	13	12650	32	WWTP EXPANSION & UPGRADE	6/30/2006	$539,920	40	$13,498	20	$268,880
Utility Facilities - Sewer Treatment	13.12650.32.0	2006-07	13	12650	32	WWTP PLANT EXPANSION	6/30/2007	$1,557,328	40	$38,933	19	$736,616
Utility Facilities - Sewer Treatment	13.12650.32.0	2007-08	13	12650	32	WWTP PLANT EXPANSION	6/30/2008	$119,809	40	$2,995	18	$53,674
Utility Facilities - Sewer Treatment	13.12650.32.0	2008-09	13	12650	32	WWTP PLANT EXPANSION	6/30/2009	$173,902	40	$4,348	17	$73,561
Utility Facilities - Sewer Treatment	13.12650.32.0	2008-09	13	12650	32	PHOTOCELL SENSOR	6/30/2009	$9,674	40	$242	17	$4,092
Utility Facilities - Sewer Treatment	13.12650.32.0	2008-09	13	12650	32	PUMP #3	6/30/2009	$8,316	40	$208	17	$3,518
Utility Facilities - Sewer Treatment	13.12650.32.0	2009-10	13	12650	32	WWTP PLANT EXPANSION	9/18/2009	$4,015	40	$100	17	$1,589
Utility Facilities - Sewer Treatment	13.12650.32.0	2009-10	13	12650	32	40' FM	10/27/2009	$15,199	40	$380	17	$5,985
Utility Facilities - Sewer Treatment	13.12650.32.0	2009-10	13	12650	32	SEWER PLANT PUMP	1/13/2010	$10,000	40	$250	16	$3,875
Utility Facilities - Sewer Treatment	13.12650.32.0	2009-10	13	12650	32	T09 WWTP PROGRAM	6/30/2010	$11,225	40	$281	16	$4,468
Utility Facilities - Sewer Treatment	13.12650.32.0	2013-14	13	12650	32	POWERLINE MANHOLE	10/15/2013	$2,400	30	$80	13	$940
Utility Facilities - Sewer Treatment	13.12650.32.0	2013-14	13	12650	32	PRESSURE BLOWER	2/25/2014	$5,670	40	$142	12	$1,641
Utility Facilities - Sewer Treatment	13.12650.32.0	2013-14	13	12650	32	SUBMERSIBLE MIXER - SR-4650	6/19/2014	$21,711	5	$4,342	5	$21,711
Utility Facilities - Sewer Treatment	13.12650.32.0	2015-16	13	12650	32	CR 15-05 BACKWASH PUMP	12/8/2015	$6,693	30	$223	11	$2,137
Utility Facilities - Sewer Treatment	13.12650.32.0	2015-16	13	12650	32	ALTOVAR 50 HP VFD	1/7/2016	$10,039	30	$335	10	$3,179
Utility Facilities - Sewer Treatment	13.12650.32.0	2015-16	13	12650	32	GORMAN RUPP T4ASB/F PUMP	11/30/2015	$8,814	40	$220	11	$2,130
Utility Facilities - Sewer Treatment	13.12650.32.0	2015-16	13	12650	32	2 - CENTRIFUGAL PUMPS & MOTORS	6/20/2016	$51,159	40	$1,279	10	$12,687
Utility Facilities - Sewer Treatment	13.12650.32.0	2016-17	13	12650	32	FRAME M2/100 A4	1/6/2017	$8,783	15	$586	9	$5,270
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	TR 50, TR 60, THERMAL RELAY, MACROMATIC RELAY	12/19/2017	$32,971	15	$2,198	9	$19,783
Utility Facilities - Sewer Treatment	13.12650.32.0	2016-17	13	12650	32	SIEMENS ENERGY	12/22/2016	$2,309	15	$154	10	$1,385
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	VAUGHAN SUBMERSIBLE CHOPPER PUMP IMPELLER MOTO	10/6/2017	$20,266	7	$2,895	7	$20,266
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	SUBMERSIBLE CHOPPER PUMP, MOTOR, POWER CABLE	10/25/2017	$13,796	7	$1,971	7	$13,796
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	PEDESTAL CHOPPER PUMP, SUBMERSIBLE PUMP	12/20/2017	$45,575	7	$6,511	7	$45,575
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	VAUGHAN SUBMERSIBLE CHOPPER PUMP 40 HP & FREIGHT	2/11/2018	$23,326	7	$3,332	7	$23,326

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Category	Account	Fiscal Year	Fund	Object	Dept	Description	Date Acquired	Cost Basis	Useful Life	Annual Depreciation	Years of Service	Accumulated Depreciation Through 2025
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	Godwin CD 150M Dri Prime Pump & Fuel Tank	1/19/2018	$24,928	7	$3,561	7	$24,928
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	SUBMERSIBLE CHOPPER PUMP 5HP 25' MOTOR	3/19/2018	$9,307	7	$1,330	7	$9,307
Utility Facilities - Sewer Treatment	13.12650.32.0	2017-18	13	12650	32	VAUGHAN SUBMERSIBLE CHOPPER PUMP 40 HP & FREIGHT	3/19/2018	$13,061	7	$1,866	7	$13,061
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	8' PADDLE AERATOR WITH 41 CUBIC MOTOR HOSES KIT	7/15/2019	$32,245	15	$2,150	7	$11,823
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	UV SYSTEM TASK ORDER 16	6/17/2020	$6,000	7	$857	6	$4,714
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	BALLAST ASSEMBLY 230V UV 40-H	6/17/2020	$5,581	7	$797	6	$4,385
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	JACKET QUARTZ 67" PHOTOCELL SENSOR LAMP CONTROL	6/17/2020	$18,356	7	$2,622	6	$14,423
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	LAMP BALLAST ASSEMBLY 230V OUTBOUND FREIGHT	6/17/2020	$9,052	7	$1,293	6	$7,112
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	LAMP JACKET WIRING HARNESS BALLAST ASSEMBLY	6/17/2020	$8,985	7	$1,284	6	$7,060
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	LAMP JEACKET WIRING HARNESS OUTBOUND FREIGHT	6/17/2020	$8,399	7	$1,200	6	$6,599
Utility Facilities - Sewer Treatment	13.12650.32.0	2019-20	13	12650	32	LAMPJACKET QUARTZ BALLAST ASSEMBLY	6/17/2020	$12,833	7	$1,833	6	$10,083
Utility Facilities - Sewer Treatment	13.12650.32.0	2020-21	13	12650	32	BALLAST ASSEMBLYDATA CABLEWIRING HARNESSLAMP	3/29/2021	$10,954	7	$1,565	5	$7,042
Utility Facilities - Sewer Treatment	13.12650.32.0	2020-21	13	12650	32	JACKET QUARTZ LAMP CONTROL PHOTOCELL LAMP	4/28/2021	$14,882	7	$2,126	5	$9,567
Utility Facilities - Sewer Treatment	13.12650.32.0	2020-21	13	12650	32	BALLAST ASSEMBLY 230VUV 40-H	6/22/2021	$8,440	7	$1,206	5	$5,426
Utility Facilities - Sewer Treatment	13.12650.32.0	2021-22	13	12650	32	BALLAST ASSEMBLY 230 V UV 40-H DCA CIRCUIT BOARD	8/6/2021	$6,195	7	$885	5	$3,983
Utility Facilities - Sewer Treatment	13.12650.32.0	2021-22	13	12650	32	PHOTOCELL WIRING HARNESS DCA CIRCUIT BOARD JACKE	10/13/2021	$22,105	7	$3,158	5	$14,211
Utility Facilities - Sewer Treatment	13.12650.32.0	2020-21	13	12650	32	INSTALLATION LABOR	7/30/2020	$17,115	7	$2,445	6	$11,003
Utility Facilities - Sewer Treatment	13.12650.32.0	2020-21	13	12650	32	WILO P/N 6070075 TR602.44-4/12 POLYURETHAN PROPREI	3/1/2021	$14,971	7	$2,139	5	$9,624
Utility Facilities - Sewer Treatment	13.12650.32.0	2020-21	13	12650	32	VAUGHAN PEDESTAL PUMP IMPELLER STANDARD ORIENTA	3/15/2021	$9,955	7	$1,422	5	$6,400
Utility Facilities - Sewer Treatment	13.12650.32.0	2020-21	13	12650	32	MANUFACTURERS EDGE INC GRUNDFOS VERTICLE MULTI S	9/10/2020	$6,778	7	$968	6	$4,357
Utility Facilities - Sewer Treatment	13.12650.32.0	2021-22	13	12650	32	VAUGHAN WET WELL CHOPPER PUMP	6/29/2022	$11,929	7	$1,704	4	$5,964
Utility Facilities - Sewer Treatment	13.12650.32.0	2021-22	13	12650	32	AB 932N-RDLT 31 STUDIO SOFTWARE	2/1/2022	$9,791	5	$1,958	4	$5,874
Utility Facilities - Sewer Treatment	13.12650.32.0	2022-23	13	12650	32	VAUGHAN SUBMERSIBLE PUMP	8/29/2022	$12,628	5	$2,526	4	$6,314
Utility Facilities - Sewer Treatment	13.12650.32.0	2022-23	13	12650	32	RELIANCE PUMP OVERHAUL & REPAIR	9/26/2022	$14,477	5	$2,895	4	$7,238
Utility Facilities - Sewer Treatment	13.12650.32.0	2024-25	13	12650	32	VAUGHAN PEDESTAL PUMP	4/29/2025	$62,397	7	$8,914	1	$4,457
Utility Facilities - Sewer Treatment	13.12650.32.0	2022-23	13	12650	32	DIFFERENCE	6/30/2023	$629			0	
Utility Facilities - Sewer Disposal	13.12650.33.0	1971-72	13	12650	33	PONDS	1/1/1972	$1,343	40	$34	40	$1,343
Utility Facilities - Sewer Disposal	13.12650.33.0	1996-97	13	12650	33	1/2 MOWER	7/5/1996	$1,340	10	$134	10	$1,340
Utility Facilities - Sewer Disposal	13.12650.33.0	2005-06	13	12650	33	INSPECTION - 8 STORAGE BUILDING	9/16/2005	$248	7	$35	7	$248
Utility Facilities - Sewer Disposal	13.12650.33.0	2005-06	13	12650	33	CAL TRANS MAINT COMPLEX INSPECTION	9/30/2005	$320	7	$46	7	$320
Utility Facilities - Sewer Disposal	13.12650.33.0	2009-10	13	12650	33	TASK 8	7/1/2009	$19,618	40	$490	17	$7,847
Utility Facilities - Sewer Disposal	13.12650.33.0	2009-10	13	12650	33	TASK 8	8/4/2009	$15,427	40	$386	17	$6,139
Utility Facilities - Sewer Disposal	13.12650.33.0	1899-00	13	12650	33	ROUNDING		($0)			0	
Utility Facilities - Sewer Disposal	13.12650.34.0	1971-72	13	12650	34	GAS LINES	1/1/1972	$953	30	$32	30	$953
Utility Facilities - Sewer Disposal	13.12650.34.0	1995-96	13	12650	34	SLUDGE BED REHAB	12/8/1995	$6,940	20	$347	20	$6,940
Utility Facilities - Sewer Disposal	13.12650.34.0	1995-96	13	12650	34	PORTABLE RADIO	1/19/1996	$449	5	$90	5	$449
Utility Facilities - Sewer Disposal	13.12650.34.0	1995-96	13	12650	34	1/3 CONCRETE PAD	6/30/1996	$993	25	$40	25	$993
Utility Facilities - Sewer Disposal	13.12650.34.0	2002-03	13	12650	34	SLUDGE REMOVAL/BED REPAIR	11/30/2002	$16,815	5	$3,363	5	$16,815
Utility Facilities - Sewer Disposal	13.12650.34.0	2002-03	13	12650	34	SLUDGE POND LINER	2/7/2003	$141,880	20	$7,094	20	$141,880
Utility Facilities - Sewer Disposal	13.12650.34.0	2005-06	13	12650	34	ALTA ENVIRONMENTAL SVCS	11/10/2005	$988	5	$198	5	$988
Utility Facilities - Sewer Disposal	13.12650.34.0	1899-00	13	12650	34	ROUNDING		$0			0	
Sewage Treatment Plant	13.12651.32.0	1956-57	13	12651	32	13-110/202 TREAT PLT	7/1/1956	$111,264	30	$3,709	30	$111,264
Sewage Treatment Plant	13.12651.32.0	1956-57	13	12651	32	BUILDING A	7/1/1956	$1,200	40	$30	40	$1,200
Sewage Treatment Plant	13.12651.32.0	1969-70	13	12651	32	MODIFICATION PUMPS A	7/1/1969	$2,062	10	$206	10	$2,062

Table D-2
OPUD Sewer Capacity Charge Nexus Study
Existing Plant Depreciation Schedule

Category	Account	Fiscal Year	Fund	Object	Dept	Description	Date Acquired	Cost Basis	Useful Life	Annual Depreciation	Years of Service	Accumulated Depreciation Through 2025
Sewage Treatment Plant	13.12651.32.0	1978-79	13	12651	32	TREATMENT PLANT B	7/1/1978	$1,804,686	40	$45,117	40	$1,804,686
Sewage Treatment Plant	13.12651.32.0	1978-79	13	12651	32	PROJ STDY TREAT PL B	4/1/1979	$660	40	$17	40	$660
Sewage Treatment Plant	13.12651.32.0	1981-82	13	12651	32	ELECTRIC MOTORS	12/4/1981	$4,601	40	$115	40	$4,601
Sewage Treatment Plant	13.12651.32.0	1982-83	13	12651	32	4-MOTOR PLATES A WAT	7/16/1982	$1,519	40	$38	40	$1,519
Sewage Treatment Plant	13.12651.32.0	1983-84	13	12651	32	GENERATOR	6/30/1984	$9,477	40	$237	40	$9,477
Sewage Treatment Plant	13.12651.32.0	1985-86	13	12651	32	10 CLH COMMUNUTOR	2/21/1986	$9,487	20	$474	20	$9,487
Sewage Treatment Plant	13.12651.32.0	1986-87	13	12651	32	COMMINUTOR	6/17/1987	$11,330	20	$567	20	$11,330
Sewage Treatment Plant	13.12651.32.0	1987-88	13	12651	32	COMMINUTOR	8/21/1987	$9,229	10	$923	10	$9,229
Sewage Treatment Plant	13.12651.32.0	1987-88	13	12651	32	PRIMING PUMPS	12/18/1987	$3,180	10	$318	10	$3,180
Sewage Treatment Plant	13.12651.32.0	1987-88	13	12651	32	CLARIFIER & WIRING	3/18/1988	$8,480	10	$848	10	$8,480
Sewage Treatment Plant	13.12651.32.0	1987-88	13	12651	32	AIR COMPRESSOR	6/3/1988	$1,803	10	$180	10	$1,803
Sewage Treatment Plant	13.12651.32.0	1988-89	13	12651	32	CA BATH LAB	8/19/1988	$1,098	15	$73	15	$1,098
Sewage Treatment Plant	13.12651.32.0	1988-89	13	12651	32	REBUILT PUMPS & MOTOR	12/16/1988	$6,853	20	$343	20	$6,853
Sewage Treatment Plant	13.12651.32.0	1988-89	13	12651	32	CHLORINATION SYSTEM	3/17/1989	$4,051	15	$270	15	$4,051
Sewage Treatment Plant	13.12651.32.0	1989-90	13	12651	32	15 HP PUMP	10/20/1989	$4,750	15	$317	15	$4,750
Sewage Treatment Plant	13.12651.32.0	1991-92	13	12651	32	PUMP & PIPE	1/17/1992	$3,574	7	$511	7	$3,574
Sewage Treatment Plant	13.12651.32.0	1991-92	13	12651	32	2 SELF PRIMING PUMPS	3/20/1992	$8,971	7	$1,282	7	$8,971
Sewage Treatment Plant	13.12651.32.0	1994-95	13	12651	32	SERIES 2000 BEACON	8/19/1994	$11,739	15	$783	15	$11,739
Sewage Treatment Plant	13.12651.32.0	1994-95	13	12651	32	SWITCHOVER REGULATOR	9/16/1994	$5,871	15	$391	15	$5,871
Sewage Treatment Plant	13.12651.32.0	1995-96	13	12651	32	LIGHT FIXTURE	12/21/1995	$1,164	15	$78	15	$1,164
Sewage Treatment Plant	13.12651.32.0	1998-99	13	12651	32	ROAD XING-ARBOGA RD	6/15/1999	$2,780	40	$70	27	$1,871
Sewage Treatment Plant	13.12651.32.0	2000-01	13	12651	32	AUTOMATIC SAMPLER	10/6/2000	$3,417	10	$342	10	$3,417
Sewage Treatment Plant	13.12651.32.0	2003-04	13	12651	32	GAS DETECTOR	10/3/2003	$1,680	10	$168	10	$1,680
Sewage Treatment Plant	13.12651.32.0	2003-04	13	12651	32	ISCO SAMPLER	12/23/2003	$2,508	10	$251	10	$2,508
Sewage Treatment Plant	13.12651.32.0	2005-06	13	12651	32	SEWER PLANT - VALVE REPAIRS	1/6/2006	$581	10	$58	10	$581
Sewage Treatment Plant	13.12651.32.0	2005-06	13	12651	32	SEWER PLANT - PUMPS REPAIRS	1/6/2006	$1,120	10	$112	10	$1,120
Sewage Treatment Plant	13.12651.32.0	2005-06	13	12651	32	SEWER PLANT - AIRREATORS REPAIRS	1/6/2006	$1,150	10	$115	10	$1,150
Sewage Treatment Plant	13.12651.32.0	2005-06	13	12651	32	GORMAN RUPP SELF PRIMER REPAIR	1/6/2006	$1,440	10	$144	10	$1,440
Sewage Treatment Plant	13.12651.32.0	2005-06	13	12651	32	GORMAN RUPP SELF PRIMER REPAIR	1/6/2006	$1,781	10	$178	10	$1,781
Sewage Treatment Plant	13.12651.32.0	2005-06	13	12651	32	(2) GORMAN RUPP PUMPS REPAIRS	1/6/2006	$14,361	10	$1,436	10	$14,361
Sewage Treatment Plant	13.12651.32.0	2009-10	13	12651	32	WWTP ROOFING	3/22/2010	$12,690	30	$423	16	$6,627
Sewage Treatment Plant	13.12651.32.0	2010-11	13	12651	32	ROOF FOR CARGO CONTAINER	5/6/2011	$5,832	20	$292	15	$4,324
Sewage Treatment Plant	13.12651.32.0	2010-11	13	12651	32	INDEPT CARGO / BOOTH MEDICAL	5/8/2011	$3,689	20	$184	15	$2,735
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	SLAB FOR SAND STORAGE	8/22/2013	$2,937	20	$147	13	$1,750
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	RAMP FOR EAST DIGESTER	9/17/2013	$5,622	20	$281	13	$3,325
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	FILTER PUMP STATION	10/23/2013	$9,200	20	$460	13	$5,405
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	FILTER PANELS	12/13/2013	$78,515	10	$7,851	10	$78,515
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	GRIT PUMP	1/31/2014	$608	5	$122	5	$608
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	ENGINEERING COMPUTER	5/1/2014	$327	5	$65	5	$327
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	UV SYSTEM	5/1/2014	$38,634	10	$3,863	10	$38,634
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	A/C UNIT	6/23/2014	$7,282	10	$728	10	$7,282
Sewage Treatment Plant	13.12651.32.0	2013-14	13	12651	32	COMPUTER SYSTEM	4/11/2014	$6,264	5	$1,253	5	$6,264
Sewage Treatment Plant	13.12651.32.0	2014-15	13	12651	32	MIXER - OXIDATION DITCH	7/15/2014	$9,552	10	$955	10	$9,552
Sewage Treatment Plant	13.12651.32.0	2014-15	13	12651	32	MIXER - OXIDATION DITCH	9/24/2014	$10,154	10	$1,015	10	$10,154

Table D-2
OPUD Sewer Capacity Charge Nexus Study
Existing Plant Depreciation Schedule

Category	Account	Fiscal Year	Fund	Object	Dept	Description	Date Acquired	Cost Basis	Useful Life	Annual Depreciation	Years of Service	Accumulated Depreciation Through 2025
Sewage Treatment Plant	13.12651.32.0	2014-15	13	12651	32	FLOWMETER	10/7/2014	$15,416	8	$1,927	8	$15,416
Sewage Treatment Plant	13.12651.32.0	2014-15	13	12651	32	MIXER - OXIDATION DITCH	12/4/2014	$4,655	10	$466	10	$4,655
Sewage Treatment Plant	13.12651.32.0	2014-15	13	12651	32	LIGHT FIXTURES AT PLANT	4/6/2015	$24,000	10	$2,400	10	$24,000
	13.12651.32.0	1899-00	13	12651	32	ROUNDING		($0)			0	
Sewage Treatment Feasibility	13.12652.32.0	2002-03	13	12652	32	WWTP FEASIBILITY CH2M HILL	6/30/2003	$108,174	20	$5,409	20	$108,174
Sewage Treatment Feasibility	13.12652.32.0	2003-04	13	12652	32	WWTP EXPAN PLANS/STUDY	6/30/2004	$2,708,070	20	$135,404	20	$2,708,070
Sewage Treatment Feasibility	13.12652.32.0	2012-13	13	12652	32	UV SYSTEM FILTERS	11/2/2012	$35,263	5	$7,053	5	$35,263
Sewage Treatment Feasibility	13.12652.32.0	2012-13	13	12652	32	BARSCREEN	4/11/2013	$6,362	5	$1,272	5	$6,362
Sewage Treatment Feasibility	13.12652.32.0	2012-13	13	12652	32	FILTER MEMBRANE DISK	4/8/2013	$40,466	5	$8,093	5	$40,466
	13.12652.32.0	1899-00	13	12652	32	ROUNDING		$0			0	
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	LIFT STATION LAND, 0.20 ACRES	7/1/2005	$5,000			0	
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	6" VCP SEWER (100 LF)	7/1/2005	$3,900	80	$39	21	$741
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	8" VCP SEWER (5,620 LF)	7/1/2005	$230,420	80	$2,304	21	$46,084
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	10" VCP SEWER (2,150 LF)	7/1/2005	$129,000	80	$1,290	21	$25,800
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	12" VCP SEWER (2,680 LF)	7/1/2005	$168,840	80	$1,688	21	$33,768
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	15" VCP SEWER (80 LF)	7/1/2005	$5,840	80	$58	21	$1,168
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	8" DIP SEWER (40 LF)	7/1/2005	$4,400	80	$44	21	$880
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	48" SEWER MANHOLES (29 EA)	7/1/2005	$121,800	80	$1,218	21	$24,360
Wheeler Ranch Improvements - Sewer Collection	13.12660.31.0	2005-06	13	12660	31	LIFT STATION	7/1/2005	$1,549,000	40	$30,980	21	$619,600
South Plumas Lake Improvements	13.12670.00.0	2008-09	13	12670	0	RIO DEL ORO SEWER MAIN & PUMP	7/18/2008	$4,111,830	80	$41,118	18	$699,011
South Plumas Lake Improvements	13.12670.00.0	2008-09	13	12670	0	SPL INFRASTRUCTURE	7/18/2008	$2,606,827	80	$26,068	18	$443,161
South Plumas Lake Improvements	13.12670.00.0	2008-09	13	12670	0	DRY UTILITIES	7/18/2008	$154,500	40	$3,090	18	$52,530
South Plumas Lake Improvements	13.12670.00.0	2008-09	13	12670	0	PROJECT & CONSULTING FEES	7/18/2008	$1,622,495	80	$16,225	18	$275,824
South Plumas Lake Improvements	13.12670.00.0	2008-09	13	12670	0	CALGON ODOR CONTROL	6/30/2009	$132,323	10	$13,232	10	$132,323

Source: OPUD.

Appendix E
OPUD Wastewater Master Plan Update

OPUD WWTP Master Plan Update

Document No.: 260715121909_96328cc6
Version: 02

Economic and Planning Systems, Inc
October 8, 2026

OPUD WWTP Master Plan Update

Client Name:	Economic and Planning Systems, Inc		
Project Name:	Wastewater Treatment Plant (WWTP) Master Plan Update		
Document No.:	260715121909_96328cc6	**Project No.:**	W8Y18000
Date:	October 8, 2026	**Project Manager:**	Kevin Kennedy
Revision:	02	**File Name:**	Steve 3 - OPUD WWTP Master Plan Update_Oct_2026_FINAL

Document History and Status

Revision	Date	Description	Author	Checked	Reviewed	Approved
01	8/25/26	Draft	Kevin Kennedy	Kevin Kennedy	Steve DeCou	Doug Barber
02	9/4/26	Final	Kevin Kennedy	Kevin Kennedy	Steve DeCou	Doug Barber



09/04/2026

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Executive Summary

Olivehurst Public Utilities District's (OPUD's) last Wastewater Treatment Plant (WWTP) Master Plan was completed in July 2016. Subsequent to that time there have been a number of substantial changes to the assumptions that were then in place at the WWTP, to include:

- The City of Wheatland (City) is working together to convey the City's wastewater to the OPUD WWTP for subsequent treatment and disposal so the City can decommission their existing wastewater treatment facility.
- The South Yuba County Service Area was recently annexed into the OPUD service area.
- Changes to the flow and loading from equivalent dwelling units (EDUs) have taken place over the last number of years, and those changes need to be incorporated into the planning for future WWTP improvements.

The estimated average dry weather flow (ADWF) from the City and South Yuba County Service Area contributions is 3.6 million gallons per day (MGD), which includes a Phase 1 ADWF of 1.5 MGD ADWF from the City. This 1.5 MGD ADWF of capacity does not represent the City's buildout service area needs. Full buildout of the City's and the OPUD's service areas are now estimated to exceed the 8 MGD ADWF buildout capacity of the existing WWTP site described in the previous Master Plan. The City and OPUD are finalizing agreements that will commit the City to convey up to 1.5 MGD ADWF to the WWTP. Flows beyond that amount may be conveyed to either OPUD or elsewhere (e.g., Linda County wastewater treatment facility).

To address these future influent flows, OPUD has requested Jacobs prepare this Master Plan Update to describe phased improvements that will allow the WWTP to incrementally increase its rated ADWF capacity to a future buildout of approximately 14 MGD. In addition, this WWTP Master Plan Update will:

1. Be used by Economic & Planning Systems (EPS) to update the OPUD's Capital Connection Fee to the WWTP. Updated connection fees will be based on the recommended improvements required to increase the WWTP rated ADWF from 3.0 to 5.0 MGD, which equates to approximately a 20-year planning horizon based on a 4% per year growth rate. The assumed growth rate will impact the amount of the Capital Connection Fee, and EPS and OPUD will work to use a growth rate that considers both risk and equity for new users.

2. Review OPUD's current definition of an EDU. As described in Section 2.3, it is recommended that the total suspended solids loading remain unchanged from the previous definition, but the flow and 5-day biochemical oxygen demand (BOD_5) loading be changed to 230 gallons per day per EDU and 0.5 pounds per day per EDU, respectively.

Table ES-1 summarizes recommended capital improvement program (CIP) along with the opinion of probable construction costs. It is anticipated that planning, designing, bidding, awarding, constructing, starting up, and commissioning will require approximately 5 years to complete, which means OPUD should start the next WWTP expansion phase approximately 4 years from now (or when the ADWF is projected to reach 2.5 MGD). Another future expansion will be required to be in service when the ADWF reaches 5.0 MGD, which is projected to occur in about 22 years (year 2048) based on a 4% per year growth rate.

Table ES-1. Estimate of Probable Construction and Capital Improvement Costs

Unit Process	Description of Improvement	Opinion of Probable Construction Costs ($M)
3.0 to 5.0 MGD ADWF Expansion		
Headworks	Add one grit pump and one grit classifier	0.7
Influent Pumping Station	None	-
Secondary Treatment		
Aeration Basin	Add one 1.6-MG basin	13.9
Secondary Clarifier	Add splitter box and one 105-diameter, 14-foot SWD clarifier	7.9
RAS/WAS Pumping		5.0
FIPS	Add three, 4300-gpm pumps	7.4
Tertiary Filtration	Install three new filter units with 20 disks to replace three existing filter units	6.1
UV Disinfection	Add one UV disinfection channel	5.3
Effluent Pumping Station	None	-
Outfall	None	-
Solids Handling and Disposal	Continued use and expansion of current methods; Add two new 0.6-MG aerobic digesters and drying beds within concrete-lined Equalization Storage Basin	16.7
Emergency Generator	Add one 2,000-kW	4.0
Odor Control	Cover and install odor for headworks channels, grit chambers, fine screens, IPS wet well, and grit classifiers	1.0
	Opinion of Probable Construction Cost	**68**
	Engineering, Legal, Administration, Construction Management, and Services During Construction	12
	Total Project Cost	**80**
Interim Project – Improvements To Be Completed After Contract 3 and Before 3.0 to 5.0 MGD Expansion[a]		
Headworks	Replace existing perforated plate screen	
	Replace grit pumps and grit processing equipment includes two cyclones, grit classifier, and appurtenances	
Influent Pumping Station	Replace existing pumps (2-20 HP and 2-60 HP) and add 1-60 HP pump	
Secondary Treatment		
Oxidation Ditches	Replace surface aerator gearboxes	
Secondary Clarifiers	None	
RAS/WAS Pumping	None	
FIPS	Add one new pump to existing wet well	
Tertiary Filtration	Install one new filter unit with 20 disks	
UV Disinfection	Replace Channel 1 and 2 UV equipment with newer technology	
Chemical Addition		
Operations Building	Remodel and modify to support work areas	

Unit Process	Description of Improvement	Opinion of Probable Construction Costs ($M)
Maintenance Shop	New building, approximately 2,300 square feet with space for maintenance, welding, storage, a truck bay, office, and restroom	
Site Improvements	New pavement at digester and south location	
Back-up/Shelf-Ready Spares	Aerator gearbox and drive (or multiple of both) and spares for other critical equipment as deemed necessary by OPUD	

FIPS = filter influent pumping station

IPS = influent pump station

kW = kilowatt(S)

UV = ultraviolet

RAS = return activated sludge

SWD = side water depth

WAS = waste activated sludge

[a] Depending on funding availability, influent flows and availability capacity, OPUD may elect to include some of the listed Interim Project improvements in the 3 to 5 MGD ADWF Expansion Project.

The following are recommendations, according to priority and timeline, described in this document:

1. OPUD plan the next Report of Waste Discharge (RWD), submit and negotiate the next NPDES permit.
    a. OPUD should identify and coordinate timeline and data requirements with the City and RWQCB well ahead of time.
    b. City wastewater is scheduled to start being conveyed for subsequent treatment and disposal at the WWTP early to mid-2029. OPUD should start the preparation and submission of a new RWD no later than early to mid-2027 in order to meet a December 29, 2027, submission date.
    c. A minimum of four quarters of City wastewater sampling data should be collected and submitted with this RWD.

3. This document should be reviewed and updated every 5 years and the connection and repair and replacement fees be adjusted if needed based on review of actual operations and maintenance records, anticipated needs, finances, and other parameters. Other updates should be made when future plant additions or other changes of significance are taking place.

4. A future analysis will be required to more thoroughly characterize the influent and peaking factors once the County's stormwater project has been completed and the City has connected to the WWTP and influent flow metering and sampling has been initiated. The five-year Master Plan update increment noted above should satisfy this need.

5. The secondary treatment expansion evaluation described in Section 3 should be completed during the preliminary design phase for the 3.0 to 5.0 MGD ADWF expansion, along with full-scale stress testing to better define existing capacity and the best, most cost-effective method to expand WWTP capacity.

6. As described in the previous Master Plan and included in the Predesign Report, OPUD should provide a shelf-ready spare aerator gearbox and drive (or multiple of both). OPUD should also consider having shelf-ready spares for other critical equipment throughout the WWTP. Given the age of the WWTP, the development of an asset management plan, which will identify critical equipment to have shelf-ready spares, is recommended.

7. As noted in Section 6, it is recommended that OPUD include a Repair and Replacement (R&R) component in the WWTP Capital Connection Fee that EPS will calculate. This is because capacity in excess of that required for existing users is to be provided; existing users should pay their proportionate share of R&R costs, but because the additional capacity is constructed for future users those future users also need to pay some portion of that cost (since they are the beneficiaries of that capacity). EPS and OPUD should evaluate the various methods that could be used to calculate the R&R component of the WWTP Capital Connection Fee and include it in the EPS recommendations.

Acronyms and Abbreviations

Acronym	Description
°C	degree(s) Celsius
µg/L	microgram(s) per liter
ADWF	average dry weather flow
AGR	Agricultural Supply
AWQC	Ambient Water Quality Criteria
Basin Plan	Sacramento and San Joaquin River Basin Plan
BOD, BOD_5	5-day biological oxygen demand
BTF	biotrickling filter
CIP	Capital Improvements Plan
City	City of Wheatland
COLD	cold freshwater habitat
CWA	Clean Water Act
EDU	Equivalent Dwelling Units
EFZ	Earthquake Fault Zone
EPA	U.S. Environmental Protection Agency
EPS	Economic & Planning Systems
ESA	Environmental Site Assessment
FA	Foul Air
FEB	flow equalization basin
FEMA	Federal Emergency Management Agency
FIPS	filter influent pumping station
FRAQMD	Feather River Air Quality Management District
FRP	fiber-reinforced plastic
GHG	greenhouse gas

Acronym	Description
gpd	gallon(s) per day
gpd/ft^2	gallon(s) per day per square foot
gpm	gallon(s) per minute
H_2S	hydrogen sulfide
hp	horsepower
IPS	influent pump station
kW	kilowatt(s)
lb/d	pound(s) per day
lbs/day/ft^2	pound(s) per day per square foot
MBR	Membrane Bioreactor
MCL	Maximum Concentration Limit
MG	million gallon(s)
MGD	million gallon(s) per
mg-N/l	milligram(s) of nitrogen per liter
MUN	municipal and domestic supply
NAVD88	North American Vertical Datum of 1988
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
OPUD	Olivehurst Public Utility District
PDR	Predesign Report for the OPUD WWTP Modifications Project
PFAS	per- and poly-fluoroalkyl substances
Project	OPUD WWTP Modifications Project
PVC	polyvinyl chloride
RAS	return activated sludge
REC-1	Water Contact Recreation
REC-2	Water Non-Contact Recreation

Acronym	Description
Regional Board	Central Valley Regional Water Quality Control Board
RWD	Report of Waste Discharge
SWD	side water depth
TAN	total ammonia nitrogen
TSS	total suspended solids
UV	ultraviolet light
WARM	warm freshwater habitat
WAS	waste activated sludge
WILD	wildlife habitat
WWTP	Wastewater Treatment Plant
YCAC	Yuba County Agricultural Commissioner

1. Introduction

The Olivehurst Public Utility District (OPUD) is responsible for collecting, treating and disposing of wastewater generated within its service area boundaries, shown on Figure 1-1. The OPUD Wastewater Treatment Plant (WWTP) currently provides capacity to serve the community, up to its rated average dry weather flow (ADWF) capacity of 3.0 million gallons per day (MGD) in accordance with National Pollutant Discharge Elimination System (NPDES) CA0077836 Order R5-2021-0024, provided in Appendix A.

The previous *Master Plan for the Olivehurst Wastewater Treatment Plant* (Master Plan), dated July 2016, outlined five phases of recommended improvements to incrementally expand the WWTP to partial and full buildout ADWF capacities of approximately 5.6 and 8.0 MGD, respectively. The latter capacity was considered the maximum practical buildout capacity of the existing WWTP site[1] using existing treatment process technologies; it was also commensurate with the then-existing buildout demand from the previous OPUD wastewater service area.

1.1 Purpose

The primary reasons for this update to the previous Master Plan are to address the following changes to OPUD's service area and influent flows and loadings:

- The City of Wheatland (City) and OPUD are currently working together to convey the City's wastewater to the OPUD WWTP for subsequent treatment and disposal so the City can decommission their existing wastewater treatment facility.
- The South Yuba County, Service Area (sometimes referred to as the Sports and Entertainment Zone), also shown on Figure 1-1, was recently annexed into the OPUD service area as described in this report attached in Appendix B.

OPUD is expanding its wastewater service area and sewer conveyance systems to accommodate the City and recently annexed South Yuba County Service Area through the addition of sewer system improvements shown on Figure 1-2. Portions of these sewer system improvements will be sized to provide capacity for the City to convey its wastewater to the WWTP. The estimated ADWF from the South Yuba County Service Area and City contributions is 3.6 MGD, which includes 1.5 MGD ADWF from the City. This 1.5 MGD ADWF of capacity does not represent the City's buildout service area needs. Full buildout of the City's and the OPUD's service areas are estimated to exceed the 8 MGD ADWF buildout capacity of the existing WWTP site described in the previous Master Plan.

To address this change in buildout demand (and to address other changes that have occurred since the adoption of the last WWTP Master Plan), OPUD has requested Jacobs prepare this Master Plan Update to describe phased improvements that will allow the WWTP to incrementally increase its rated ADWF capacity to a partial buildout of approximately 15 MGD. In addition, this WWTP Master Plan Update will be:

- Used by Economic & Planning Systems (EPS) to update the OPUD's Capital Connection Fee to the WWTP. Updated connection fees will be based on the recommended improvements required to increase the WWTP rated ADWF from 3.0 to 5.0 MGD, which equates to approximately a 20-year planning horizon based on a 4 % per year growth rate. The assumed growth rate will impact the amount of the Capital Connection Fee, and EPS and OPUD will work to use a growth rate that considers both risk and equity for new users.
- Review OPUD's current definition of an Equivalent Dwelling Unit (EDU) and, if necessary, propose updated values based on comparison with more recent influent flows and loadings.[2]

[1] Parcel No. APNs 014-270-002 and 014-850-015

[2] An EDU is currently defined by OPUD as a flow of 260 gallons per day (based on ADWF conditions), 0.67 lb BOD/day and 0.50 lb TSS/day.

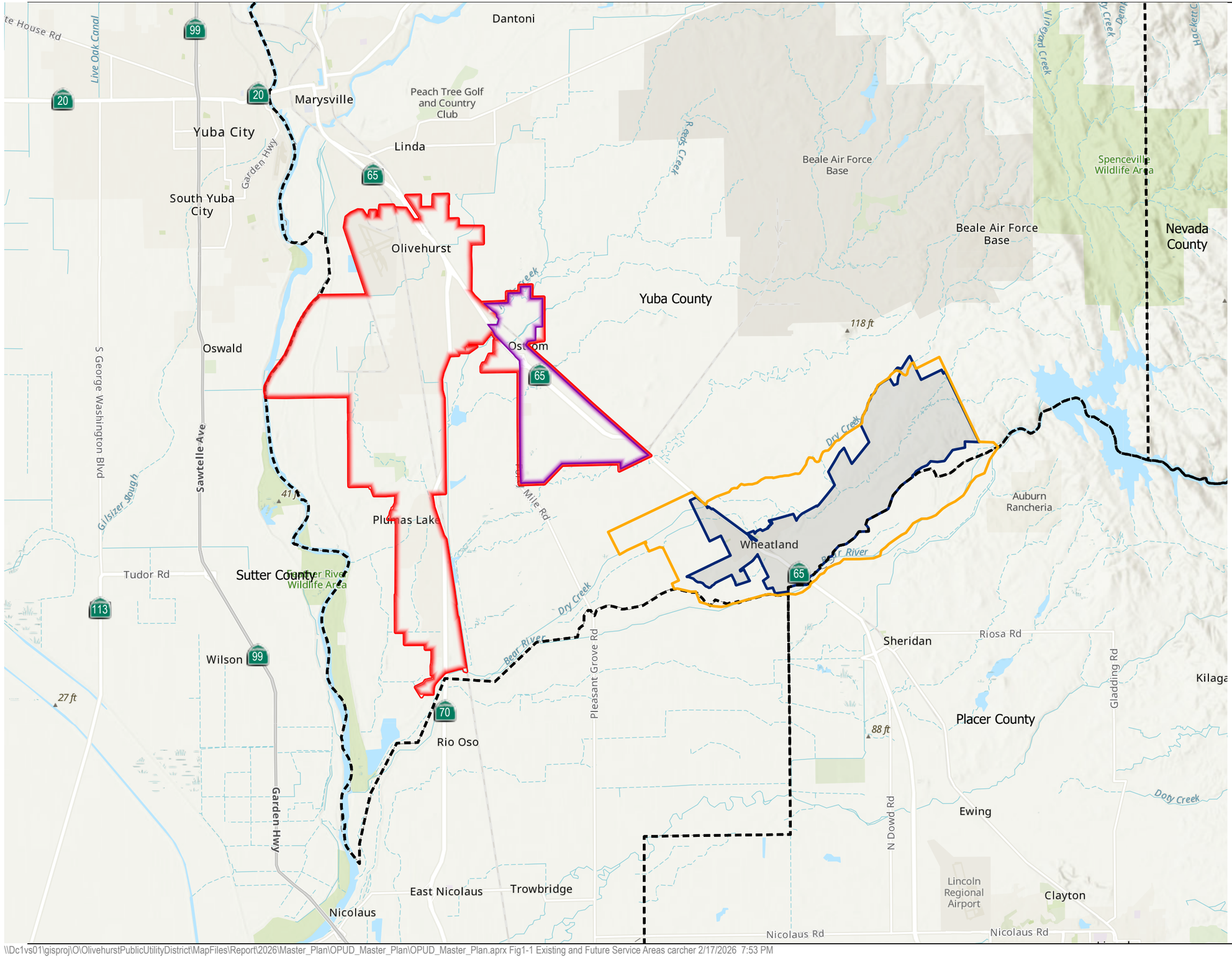


FIGURE 1-1
Existing and Future Service Areas with South Yuba County and City of Wheatland
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

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LEGEND

- Contract No.1 Wheathead Pump Station
- Contract No.2 OPUD Pump Station
- Contract No.1 Force Main
- Contract No.2 Force Main
- Futrue Local Wastewater Phase
- Regional Trenchless Crossing
- Existing Force Main
- Wastewater Treatment Plant
- Existing Wastewater Treatment Plant Facilites

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World Imagery: Vantor
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FIGURE 1-2
Phase 1 OPUD and City of Wheatland Sewer Conveyance System Improvements
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

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1.2 Background and Setting

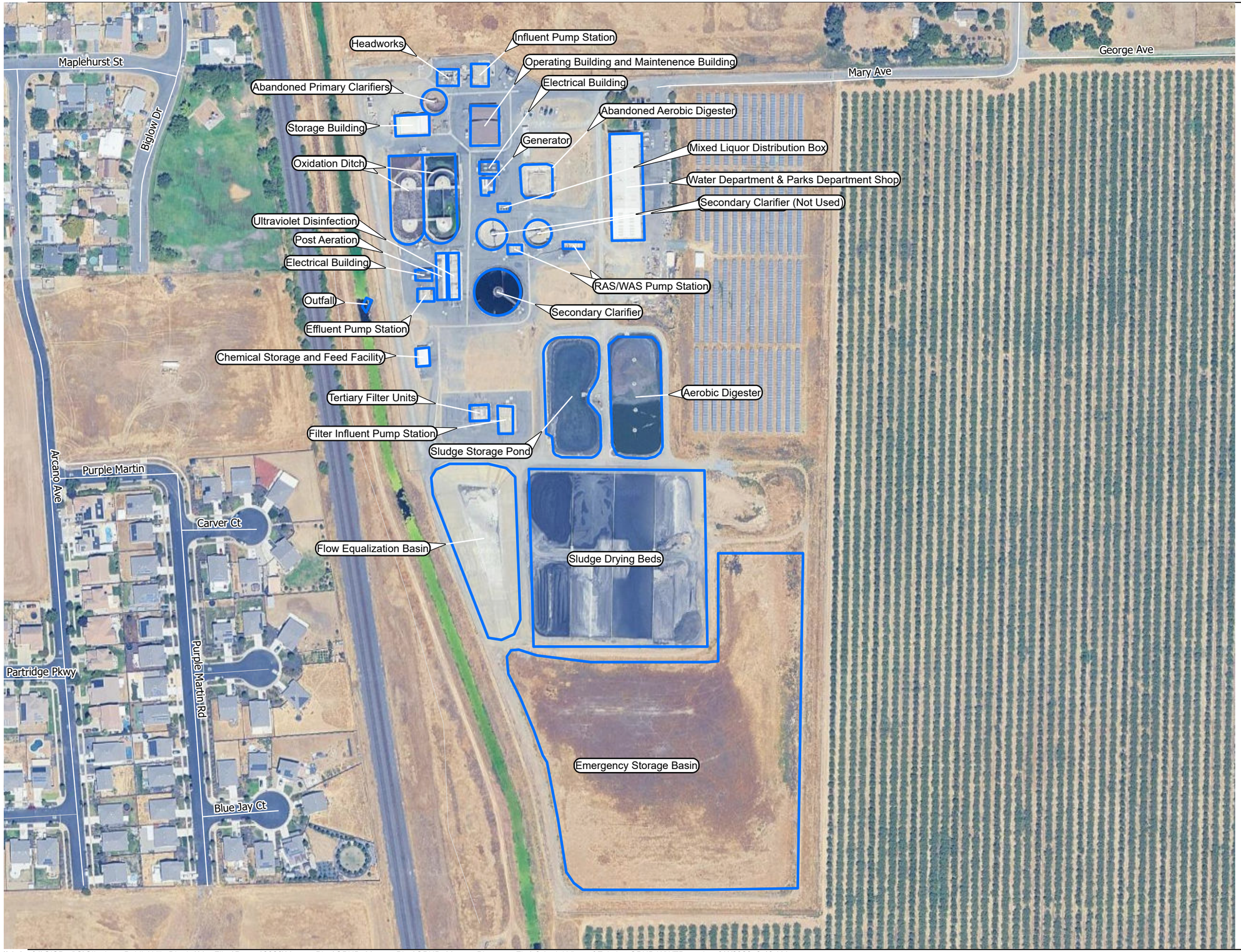
Figures 1-3 and 1-4 show an aerial view and process flow diagram of the existing WWTP. As shown, existing liquids treatment processes consist of influent screening, grit removal, influent pumping station, oxidation ditches, secondary clarifiers, secondary flow equalization, tertiary filtration, ultraviolet light (UV) disinfection, and post aeration. Most of the liquid processes were constructed as part of the 2004 Expansion Project. Existing solids handling processes consist of aerobic digestion, sludge storage pond and drying beds. The sludge storage pond was constructed in 1975, and the drying beds were constructed in the 2004 Expansion Project.

1.2.1 WWTP Modifications and Future Permitting Requirements

Design of the Contract No. 3 OPUD WWTP Improvements Project (Project) is currently underway and is expected to be completed by mid to late 2027. Bidding and award are expected to occur immediately afterwards, with construction and startup completed in 2029 prior to the onset of the wet weather season. Project objectives are to replace some equipment that has exceeded its operational lifespan, expand peak flow capacity to accommodate more recently measured influent flows, and provide solids handling and processing improvements. The Project includes improvements to influent screening and pumping; secondary clarification; tertiary filtration, UV disinfection; tertiary flow equalization; and solids handling and processing. Modifications to ancillary facilities include the supervisory control and data acquisition control system, site electrical, yard piping, utility water, and control building. The Project also includes a new vactor truck dump station. Figures 1-5 and 1-6 provide the site plan and process flow diagram with Project improvements.

The current NPDES permit has been in effect for the last 5 years and was set to expire May 31, 2026. OPUD staff submitted a Report of Waste Discharge (RWD) to the Central Valley Regional Water Quality Control Board (Regional Board) before the May 31, 2026 deadline to renew their permit. The Regional Board responded to OPUD's RWD submittal and stated that the Regional Board would not have a new permit completed until December 2026 or February 2027, which is after the May 31, 2026, expiration date. The current permit remains effective until the new permit is issued.

City wastewater is scheduled to start being conveyed to the WWTP for treatment and disposal in mid-2029. This means that OPUD should start the preparation and submission of a new RWD to accommodate the City's wastewater no later than mid- to late-2027 in order to meet a December 29, 2027, submission date. It is recommended that a minimum of four quarters of City wastewater sampling data be collected and submitted with this RWD and that OPUD coordinate the schedule and RWD contents well ahead of time with the City and Regional Board.





LEGEND

Existing Wastewater Treatment Plant Facilites

Notes:
RAS = Return Activated Sludge
WAS = Waste Activated Sludge

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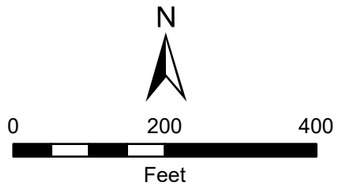


FIGURE 1-3
Aerial View of Existing OPUD WWTP
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

EXISTING SOLIDS HANDLING FACILITIES

LEGEND

- EXISTING FACILITIES
- PHASE 1A FACILITIES
- PUMP
- CHEMICAL INJECTION POINT
- MAIN PROCESS FLOW
- RECYCLE FLOW

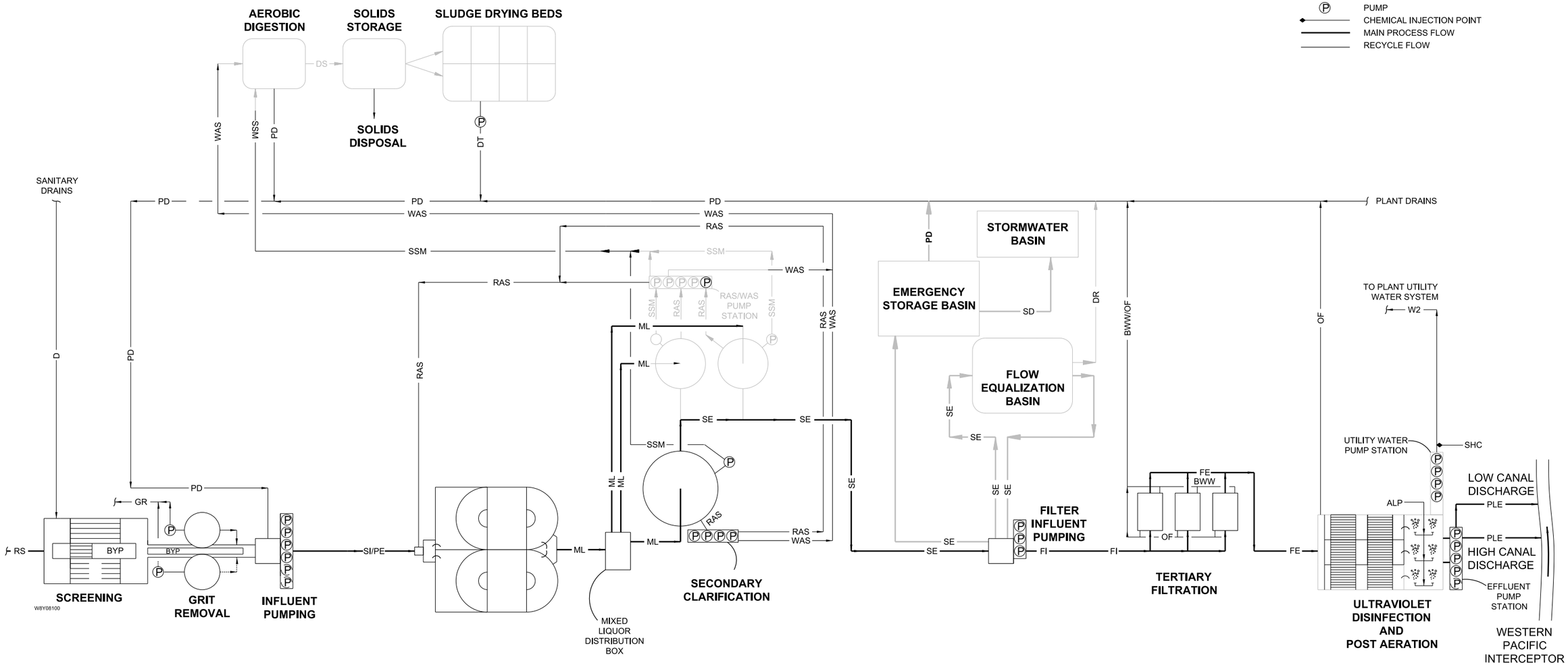


FIGURE 1
PROCESS FLOW
DIAGRAM OF EXISTING OPUD WWTP
OPUD - MASTER PLAN

JACOBS

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(1) Headworks
(Screening and Grit Removal)
(2) Influent Sewage Pump
(10) Maintenance Building
(4) Oxidation Ditches
(9) Ancillary Support Facilities
(Utility Water Pump Station)
(5) Secondary Clarifier
(8) Converted Aerobic Digester
(3) Filtration
(3) Flow Equalization Basin
(8) Sludge
Drying beds
(8) Aerobic Digester
(3) Emergency Storage Basin



LEGEND

- Existing WWTP Facilites
- OPUD WWTP Improvements
  (Peak Flow and Reliability Upgrades)
- Parcels

Notes:
MGD = Million Gallons per Day
RAS = Return Activated Sludge
WAS = Waste Activated Sludge
WWTP = Wastewater Treatment Plant

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FIGURE 1-5
Future OPUD WWTP Site Plan
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

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LEGEND

- EXISTING FACILITIES
- PUMP
- CHEMICAL INJECTION POINT
- MAIN PROCESS FLOW
- RECYCLE FLOW

SOLIDS HANDLING FACILITIES

AEROBIC DIGESTERS

AEROBIC DIGESTER 3

SLUDGE DRYING BEDS

DIGESTED SLUDGE PUMP STATION

SOLIDS DISPOSAL

SANITARY DRAINS

PLANT DRAINS

STORMWATER BASIN

EMERGENCY STORAGE BASIN

FLOW EQUALIZATION BASIN

RAS/WAS PUMP STATION

RAS/WAS PUMP STATION

TO PLANT UTILITY WATER SYSTEM

UTILITY WATER PUMP STATION

LOW CANAL DISCHARGE

HIGH CANAL DISCHARGE

EFFLUENT PUMP STATION

WESTERN PACIFIC INTERCEPTOR DRAINAGE CANAL

SCREENING

GRIT REMOVAL

INFLUENT PUMPING

OXIDATION DITCHES

SECONDARY CLARIFICATION

FILTER INFLUENT PUMPING

TERTIARY FILTRATION

ULTRAVIOLET DISINFECTION AND POST AERATION

PROCESS FLOW SCHEMATIC

NTS

FIGURE 1
FUTURE OPUD WWTP
PROCESS FLOW DIAGRAM
OPUD - MASTER PLAN

W8Y08100

JACOBS

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1.2.2 City of Wheatland and Agreements

The City's WWTP was built in the 1960s and is reaching the end of its useful life. The City has made the decision to decommission its existing facility and send its wastewater approximately 13 miles to the OPUD WWTP for subsequent treatment and disposal.

Currently the City and OPUD are working to finalize the following agreements before the City conveys wastewater to the WWTP.

Capacity Purchase Agreement (Draft):

- Provide for City's Phase 1 purchase capacity of 1.5 MGD ADWF and 3.3 MGD peak flow
- Describe City and OPUD responsibilities

Wastewater Treatment and Operations Agreement (Draft):

- Establish City influent characteristics (flows, peaking factors, pollutant loads, consistency with OPUD EDU definition)

Appendices C and D provide these documents for reference.

1.2.3 WWTP Site Expansion and Yuba County Drainage Coordination

Jacobs developed a site layout and estimated costs for a membrane bioreactor (MBR) alternative layout within the existing WWTP site and provided these estimates to EPS. The use of MBR technology was proposed in an attempt to allow the existing OPUD WWTP site to accommodate all future buildout needs, since MBR technology requires a much smaller footprint than conventional activated sludge processes. EPS then developed preliminary connection fees estimates in May 2024 that suggested that moving to an MBR system could result in a Capital Connection Fee of roughly $16,342 per EDU, which was deemed to be too expensive.

To reduce the anticipated connection fee, OPUD has worked with Yuba County to purchase land adjacent to the existing WWTP so the current, lower-cost, liquid treatment processes can continue to be used and expanded into the future. This approach is expected to result in lower overall costs and connection fee estimates.

A 30.7-acre parcel adjacent to the WWTP was identified for acquisition to expand both the WWTP and Yuba County stormwater management facilities. This site is located immediately south of the existing WWTP site as shown in Figure 1-7.[3] Conditions of this site were characterized in terms of biological and cultural resources and a Phase 1 Environmental Site Assessment (ESA) by Planning Partners and Padre Associates was conducted before acquisition. A copy of the reports and findings is attached in Appendix E for reference and summarized as follows:

- **Biological Resources:** Parcel is located in an orchard currently planted with almond trees. There are no potentially jurisdictional waters or wetlands within the study area; however, there are aquatic resource features adjacent to the parcel. The 30-acre area of interest is highly disturbed by agricultural activity associated with current operations in almond cultivation. The property lacks suitable habitat for the majority of the special-status species identified in our literature review and outlined in Table 1 of the Biological Resources Review Memo. However, wetland and riparian habitat occur in adjoining areas, which may attract special-status species to the area. Special-status species that may occur at or near the 30-acre site include vernal pool branchiopods (fairy shrimp and tadpole shrimp), giant garter snake, burrowing owl, and Swainson's hawk. Identification of these special-status species would be

[3] It should be noted that not all of the 30.7-acre parcel will be provided to or occupied by the OPUD WWTP. Future expansion of the Yuba County stormwater management facilities requires a portion of this site.

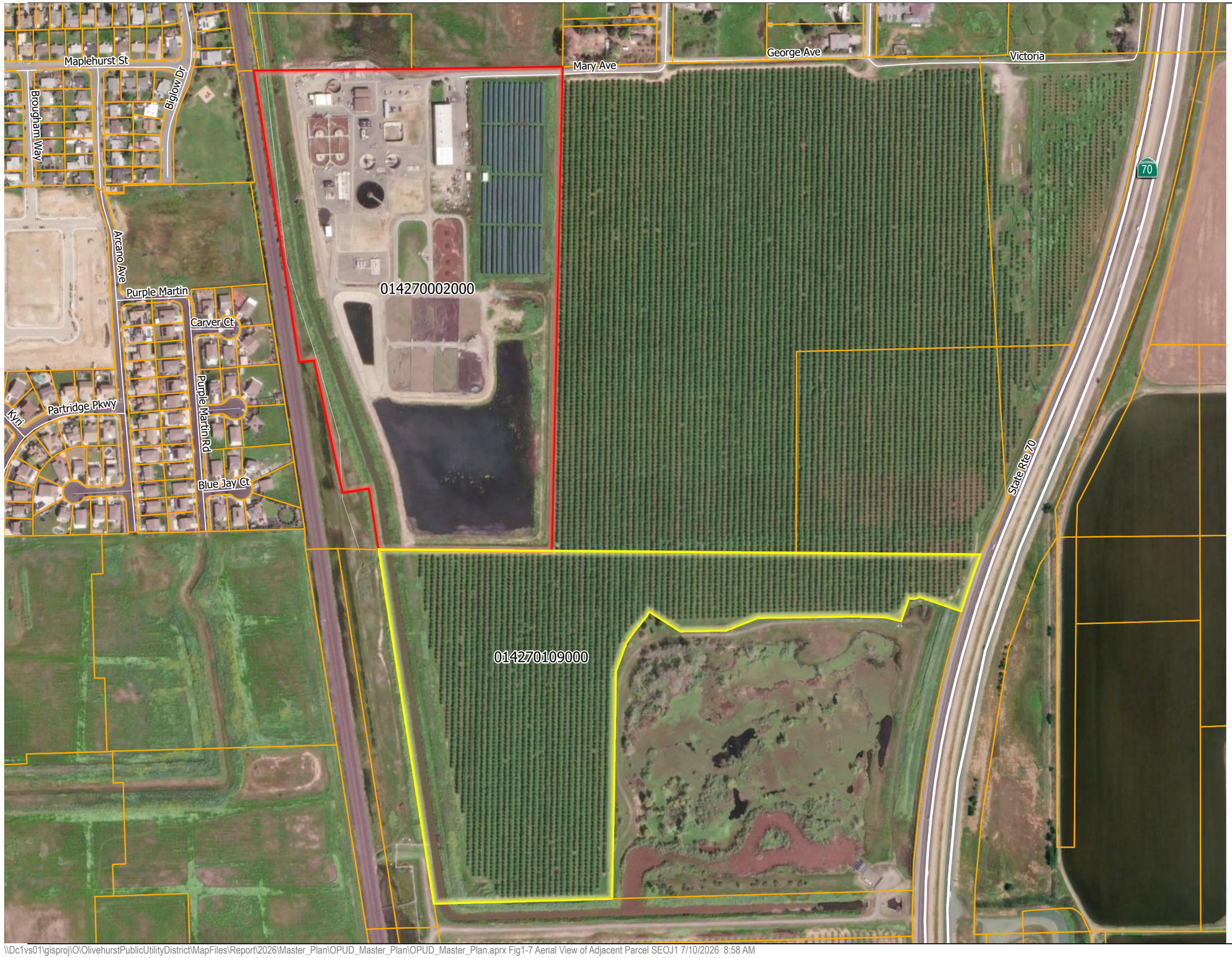
similar to those encountered on OPUD's Contract No. 2 Project and would require future studies to determine presence or absence of these special-status species.[4] If such species were identified on site, mitigation would be similar to that identified for the Contract No. 2 Project.

- **Cultural Resources:** Records search results indicate that no cultural resources have been recorded within the 30-acre parcel site. The search also revealed that a portion of the site borders the Western Interceptor Levee District 784 (P-5-003367). This resource is located outside of the site and therefore will not be impacted by Project activities. A total of seven previous cultural studies have been completed within a 0.25-mile radius of the 30-acre parcel. Of these, four studies cover portions of or are adjacent to the parcel. These previous studies sufficiently cover the Project site, and Padre does not recommend any further pedestrian survey for subsequent planning for future utilities on the parcel.
- **Phase I ESA:** Based on the results and limitations of the scope of services performed for this Phase I ESA, Padre found the following summary and conclusions regarding the Subject Property:
  - According to FEMA Flood Insurance Rate Map, the Subject Property is located in Zone X (Area of Reduced Flood Risk Due to Levee).
  - According to the Earthquake Fault Zone (EFZ) maps issued by the CGS, the Subject Property is not located within the boundaries of an EFZ, and no active faults are known to cross the Subject Property
  - Based on historic air photos and maps, it appears that the Subject Property has been in agricultural use since at least 1952
  - A site reconnaissance was completed on December 20, 2024. During the site reconnaissance, no petroleum and/or chemical containers or stained soils were observed at the Subject Property, and no aboveground or indications of underground petroleum storage tanks were observed.
  - The Yuba County Agricultural Commissioner (YCAC) was consulted to request pesticide-use permits for the Subject Property. Pesticide-use reports for the Subject Property for the years 2019, 2020, 2022, 2023, and 2024 were provided by the YCAC. The permits indicate that fungicides, herbicides and insecticides were used on 95-acres of "Almonds" and were applied by aviation. No permit violations were reported.
  - Environmental agency database information was obtained. The databases were reviewed to identify registrations and documented environmental incidents regarding the site and nearby properties within a one-mile radius. Padre also attempted to locate unplottable sites that were not located because of incomplete or incorrect address information. The subject parcel was not identified in any databases of known Recognized Environmental Conditions.

Future needs with respect to both OPUD peak flow equalization requirements, if any, and Yuba County drainage improvements at the 30.7-acre site cannot be determined at this time due to the following considerations:

- Influent wastewater flow characteristics (average, peak flow) for new connections, for both OPUD and City services areas, are unknown at this time
- Infiltration & Inflow reductions, if any, to current WWTP influent flows from Yuba County's $40M Storm Drain Improvements Grant are unknown at this time but are expected to reduce peak flow contributions
- Future Pump Station 1 flow characteristics and when, if ever, the recommended improvements to this station will be constructed

[4] Information about Contract 2 special-status species can be found in the Biological Assessment (Padre Associates, prepared December 2025 and revised February 2026)





LEGEND

- Existing OPUD WWTP Parcel
- Newly Purchased OPUD WWTP Parcel
- Parcels

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FIGURE 1-7
Aerial View of New 30-Acre Parcel Adjacent to OPUD WWTP
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

\\Dc1vs01\gisproj\O\OlivehurstPublicUtilityDistrict\MapFiles\Report\2026\Master_Plan\OPUD_Master_Plan\OPUD_Master_Plan.aprx Fig1-7 Aerial View of Adjacent Parcel SEOJ1 7/10/2026 8:58 AM

1.3 Current and Future Regulatory Requirements

OPUD should consider current and future regulations that could have a major impact on the future WWTP sizing and costs. OPUD discharges into the Western Pacific Interceptor Canal, a tributary to the Lower Bear River within the Bear River Watershed. The receiving water is designated for municipal and domestic supply (MUN), agricultural supply (AGR), hydropower generation, water contact and non-contact recreation (REC-1, REC-2), warm and cold freshwater habitat (WARM, COLD), and wildlife habitat (WILD). The following is a summary of potential regulatory issues applicable to the WWTP.

Table 1-1. Regulatory Framework and Potential WWTP Impacts

Regulatory Issues	Potential Impacts to OPUD
Ammonia, Nitrate and Nitrite, and Copper	**TAN** **Regulatory Policies and/or Legislation:** The *Sacramento and San Joaquin River Basin Plan* (Basin Plan), EPA Ambient Water Quality Criteria (AWQC); Clean Water Act 304(a) aquatic life water quality criteria for ammonia in fresh water **Current State:** Average monthly effluent limitation (AMEL) of 1.6 mg as NH_3-N /L. Effluent discharge has been less than the limit 97% of the times in the last 5 years. **Future Direction:** If conditions of toxicity and/or oxygen depletion occur in the receiving water, it could trigger stricter regulations. Because climate change impacts can further stress aquatic environments, OPUD should plan for compliance with Basin Plan narrative objectives for TAN (and the 2013 EPA AWQC[a]) to protect MUN beneficial uses. **Nutrients** **Regulatory Policies and/or Legislation:** EPA numeric criteria, EPA water quality trading, and EPA 2022 One Water Nutrient Reduction Approach, Basin Plan, California Air Resources Board GHG Policy **Current State:** Nitrate plus nitrite of 10 mg-N/L. OPUD's effluent has not exceeded this limitation in the last 5 years. **Future Direction:** It is expected that full nitrification and denitrification will continue to be required due to nutrients being listed as potential concern in the Feather River Watershed. Further, wastewater industry trends indicate that the release of nitrous oxide can occur during some nutrient removal processes. Based on statewide policy level N_2O is currently tracked, modeled, and included in climate targets but not regulated. OPUD should continue to plan for nitrogen reduction and consider tracking cap and trade accounting policies for GHGs emissions during technology/process selections. **Copper** **Regulatory Policies and/or Legislation:** Clean Water Act (CWA), Porter–Cologne Act, California Toxics Rule, Basin Plan **Current State:** The NPDES permit outlines the effluent water's California Toxics Rule Chronic Criterion as 12 µg/L, with an AMEL of 11 µg/L. OPUD has self-reported copper monthly and quarterly since 2020 and is consistently less than the AMEL. **Future Direction:** OPUD should continue source control of copper.

Regulatory Issues	Potential Impacts to OPUD
Central Valley Priorities – Salinity & Mercury	**Salinity** **Regulatory Policies and/or Legislation:** Porter–Cologne Water Quality Control Act, Basin Plan, Central Valley Salinity Alternatives for Long Term Sustainability, Sustainable Groundwater Management Act **Current State:** OPUD is the secondary MCL recommended for electrical conductivity and generally less than the MCL for total dissolved solids. Effluent sulfate and chloride concentrations are significantly less than secondary MCL. **Mercury** **Regulatory Policies and/or Legislation:** CWA, Porter–Cologne Water Quality Control Act, Basin Plan, Cache Creek / Bear Creek / Harley Gulch Mercury total maximum daily load **Current State:** OPUD is less than the MCL but has exceeded the maximum effluent concentration in May 2023 and January 2024. **Future Direction:** Continue to work with local entities and industries to implement source control for emissions of salinity, mercury, and pesticides.
Biosolids Disposal	**Regulatory Policies and/or Legislation:** Senate Bill 1383, Assembly Bill 1594 Section 39730.6, and the Carbon Neutrality Goals. These aim to reduce the organic waste sent to landfills and reduce greenhouse gas emissions from landfills. **Current State:** OPUD complies with SB 1383 through Sutter Regional Waste Management. **Future Direction:** There are potential benefits to evaluating biosolids disposal alternatives and a biosolids program. The carbon neutrality framework should be applied to evaluate potential beneficial uses of biosolids to help California achieve its carbon neutrality goals.
PFAS	**Regulatory Policies and/or Legislation:** CWA, Compensation, and Liability Act, Porter–Cologne Water Quality Control, WDRs & investigation orders **Current State:** No legislation currently enforces monitoring at OPUD. **Future Direction:** Upon completion of the PFAS Strategic Roadmap conducted by the EPA, it is likely that agencies will be required to begin monitoring PFAS in the treated effluent, particularly since the receiving waterbody has a MUN designation. No discharge limits are anticipated in the near- to mid-term planning period. PFAS regulations in biosolids are dependent on final disposal or reuse applications. Some increased restrictions on land application may be possible in the near to mid-term planning period which could impact biosolids handling and disposal practices.
Air Emissions	OPUD is located inside the Feather River Air Quality Management District (FRAQMD). FRAQMD prohibits visible emissions, particulate matter higher than 0.3 grains per cubic foot for exhaust gas, and dust and fumes based on a mass-per-hour basis. (FRAQMD 1991)
Odor Control	**Legislation Driver:** California Health and Safety Code "Public Nuisance" odor standard. This is enforced by FRAQMD. **Current State:** Residential areas are encroaching and getting closer to the OPUD WWTP, which could lead to odor complaints. **Future Direction:** The addition of odor control at the headworks is suggested as part of future improvements to reduce the risk of complaints associated with long sewage detention times in the OPUD and Wheatland conveyance system.

[a] The 2013 EPA Aquatic Life Ambient Water Quality Criteria for Ammonia (Freshwater) sets science-based limits to protect fish and aquatic organisms and recommends an acute criterion magnitude of 17 mg TAN/L and a chronic criterion magnitude of 1.9 mg TAN/L at pH 7 and 20°C, with the stipulation that the chronic criterion cannot exceed 4.8 mg TAN/L as a 4-day average.

°C = Celsius

µg/L = microgram(s) per liter

GHG = greenhouse gas

MCL = Maximum Concentration Limit

PFAS = per- and poly-fluoroalkyl substances

TAN = Total Ammonia as Nitrogen

2. Influent Flows, Loads, and Updated EDU Definition

Influent flows and pollutant loadings were developed from historic 2019 through 2024 OPUD and historic 2019 through 2021 City operating data to characterize current flow and loading conditions. An estimated growth rate of 4% per year for both the OPUD and City service areas were used to project future flows and loadings. The following updated EDU definition was used to project future design loadings as described in the draft Project Definition Report, dated December 2025 (Appendix F).

2.1 OPUD WWTP Influent Flows and Loads

Table 2-1 presents a summary of current influent flows and loads, and WWTP design capacities obtained from either the Predesign Report (PDR) attached in Appendix F or Phase 1A Improvement Record Drawings. As noted in the table notes in Table 2-1, values shown in the table were all developed from historical 2019-2024 operating data along with the references cited.

Table 2-1. Current and OPUD WWP Design Flows and Pollutant Loadings*

Condition	Flow (MGD)	BOD	TSS
Current (2024) – BOD and TSS Loads (lb/d)			
Average Dry Weather	1.7	3,292	3,090
Average Annual	2.0[a]	4,270[a]	3,603[a]
Maximum Month	2.8	5,627[a]	5,394[a]
Peak Day	7.4	10,430[a]	10,739[a]
Peak Hour	9.8	N/A	N/A
Equalized Tertiary	5.0***	N/A	N/A
Current (2024) BOD and TSS Concentrations (mg/L)			
Average Dry Weather		232	218
Average Annual		256	216
Maximum Month		241	231
Peak Day		**169[f]**	**174[f]**
WWTP Design Capacity - BOD and TSS Loads**			
Average Dry Weather	3.0	6,500[c]	5,562[c]
Average Annual	3.5[a]	7,473[a]	6,305[a]
Maximum Month	4.8	9,200[d]	6,900[d]
Peak Day	12.6[b]	13,600[d]	10,200[d]
Peak Hour	16.7[b]	N/A	N/A
Equalized Tertiary	11.4[b]	N/A	N/A
WWTP Design Capacity – BOD and TSS Concentrations (mg/L)			
Average Dry Weather	3.0	260[e]	222[e]
Average Annual	3.5[a]	256	216
Maximum Month	4.8	230	172
Peak Day	12.6[b]	129[f]	97[f]

Notes:
* From PDR unless otherwise noted as follows:
** After improvements described in PDR have been completed and available for operation.

*** Limited by higher than anticipated UV transmission following tertiary filtration.
[a] Based on 2019-2021 Average Annual Flow/ADWF ratio of 1.16 and statistical analysis of 2019-2021 historic operating data (., influent flows and pollutant loads, calculated concentrations from those results); results indicate average annual (50th-percentile values) BOD and TSS concentrations of 256 and 216 mg/L, respectively, maximum month (11 out of 12 months or 91.7 percentile values) BOD and TSS concentrations of 241 and 231, respectively,
[b] Peak day, peak hour, and equalized tertiary flows include 3.0 MGD total of additional flow from Pump Station 1 (PS1) and Pump Station 2 (PS2). PS1 improvements have been deferred to the future. PS1 and PS2 currently have peak flow capacities of 2.14 MGD and 1.38 MGD, respectively with all pumps in service which is required during peak flow events. PS1 and PS2 improvements will increase peak flow capacities to 4.5 and 2.0 MGD, respectively. Refer to Appendix H for Equalization Flow Analysis description and how equalized tertiary flows were estimated.
[c] Equal to the larger of Design Flows and Loads, Sheet G-14 – General Design Criteria, Wastewater Treatment Plant Phase 1A Expansion and Update Record Drawings or PDR.
[d] Obtained from Design Flows and Loads, Sheet G-14 – General Design Criteria, Wastewater Treatment Plant Phase 1A Expansion and Update Record Drawings.
[e] For comparison purposes, the recommended updated EDU definition described later in this section reflects BOD and TSS concentrations of 300 and 273 mg/L, respectively.
[f] BOD and TSS concentrations derived from BOD and TSS loads presented above.
BOD = biological oxygen demand
lb/d = pound(s) per day
mg/L = milligram(s) per liter
N/A = not applicable
TSS = total suspended solids

Flows and loadings shown in Table 2-1 come from two different sources – PDR and Phase 1A Improvements. A future analysis will be required to more thoroughly characterize the influent and peaking factors once the County's stormwater project has been completed and the City has connected to the WWTP and influent flow metering and sampling has been initiated **(Recommendation)**.

Yuba County is currently working on a major project that will bring storm drainage improvements to historic Olivehurst. When Olivehurst was initially developed the developers did not install storm drainage improvements to the area, and in many cases the streets are at an elevation that is equal to, and in some cases even higher than surrounding lots that today are developed. As a result, flooding in this area is common during relatively intense rainfall events, and that flooding contributes to infiltration and inflow (I/I) that enters the District's sewage collection system. Anecdotally, it is reported that some residents even open the sewer cleanouts immediately outside their homes when stormwater threatens their property. Given the threat of flooding, it is extremely difficult to convince residents to abate this practice. It is hoped that the storm drainage improvements, when completed, will reduce I/I in this area. In the 2010 time period the District added flowmeters to their collection system in an attempt to measure rainfall dependent I/I, and it is recommended that similar flow monitoring take place after the storm drainage work is completed in order to then determine more accurate information on peak flows that might enter the WWTP. This analysis does not include additional capacity to be installed in OPUD's Pump Station No. 1, and it is unknown if future modeling work will confirm that approach as appropriate. The Pump Station No. 1 work was curtailed due to two reasons:

1. Unknowns associated with the County's storm drainage work
2. Lack of funding

Waste activated sludge (WAS) is pumped to the aerobic digester and solids storage ponds where it is stored, decanted, and eventually transferred and dewatered during the dry season in the sludge drying beds. The WWTP has a total of eight sludge drying beds and one is currently used for stockpiling dewatered cake. Dewatered cake is hauled offsite to the Ostrom Road Recology Landfill once a year, typically in mid-October. Table 2-2 summarizes the sludge hauling data from is 2020 to 2025.

Table 2-2. 2020 to 2025 Dewatered Cake Hauling Data

Year	Number of Trips	Wet Weight (tons)	Dry Weight (tons)	Dry Weight (%)
2020	43[a]	368	328	89
2021	48[b]	439	390	89
2022	17[c]	363	327	90
2023	18[c]	416	383	92
2024	16[c]	353	335	95
2025	24[c]	556	506	91
Average	-	416	378	91

Notes:

[a] 13 trips by H&H trucking and 30 trips by OPUD dump truck.

[b] 18 trips by H&H trucking and 30 trips by OPUD dump truck.

[c] All trips done by H&H trucking.

2.2 City WWTP Influent Flows and Loads

Historical City WWTP influent data shown in Table 2-3 were provided by the City for 2019 through 2021. These data were analyzed to determine current influent flow rates and mass loadings conditions and compared to OPUD's influent characteristics as described as follows.

Table 2-3. Monthly Average Flow Data for City of Wheatland WWTP

Month	Monthly Average Flows (MGD)*		
	2019	2020	2021
January	0.40	0.34	0.28
February	0.52	0.33	0.28
March	0.46	0.35	0.28
April	0.37	0.34	0.25
May	0.38	0.29	0.25
June	0.35	0.25	0.24
July	0.34	0.27	0.25
August	0.37	0.26	0.26
September	0.36	0.27	0.27
October	0.35	0.29	0.29
November	0.33	0.28	0.27
December	0.36	0.28	0.34
Average Annual Flow (MGD)	0.38	0.30	0.27
ADWF (MGD)	0.36	0.27	0.26

2.3 Updated EDU Definition

In 2016, OPUD evaluated flow and loadings from each EDU and adopted the following definition of an EDU:

- Flow: 260 gallons per day
- Biological oxygen demand (BOD): 0.67 pounds per day (lb/day)
- Total suspended solids (TSS): 0.50 lb/day

For the purposes of this Master Plan Update, it is proposed that the definition of an EDU be revised to reflect more recent historical WWTP data. Table 2-3 provides summaries of 2019 through 2021 BOD and TSS loadings for the City while Table 2-4 provides summaries of 2019 through 2024 data for influent flow, BOD loading, and TSS loading for the OPUD service area. Table 2-5 shows a comparison of current, 2019-2024, and Table 2-6 provides the recommended EDU definition.

Table 2-4. WWTP Pollutant Loading Data From the City

Pollutant Parameter	Annual Average Load (lb/d)			
	2019	2020	2021	Average
BOD	600	590	598	596
Total Suspended Solids	480	480	487	482

Table 2-5. 2019-2024 Flow and Load Data for Average Dry Weather Conditions for OPUD WWTP

Year	Flow, MGD	Flow per EDU (gpd per EDU)	BOD Loading, lb/day	BOD Loading per EDU (lb/day per EDU)	TSS Loading, lb/day	TSS Loading per EDU (lb/day per EDU)
2019	1.42	178	2,658	0.33	2,747	0.35
2020	1.35	265	2,928	0.36	2,698	0.33
2021	1.47	273	2,993	0.35	2,934	0.34
2022	1.21	138	2,850	0.32	2,403	0.27
2023	1.60	176	3,667	0.40	3,736	0.41
2024	1.70	181	3,292	0.35	3,090	0.33
Average	**1.46**	**202**	**3,065**	**0.35**	**2,934**	**0.34**

Note: EDU count is 8,650.

gpd = gallon(s) per day

Table 2-6. Recommended Updated EDU Definition

EDU Definition Category	Flow per EDU (gpd per EDU)	BOD Loading per EDU (lb/day per EDU)	TSS Loading per EDU (lb/day per EDU)
Current Definition	260	0.67	0.50
2019-2024 Data	206	0.35	0.34
Updated EDU Definition	230	0.55	0.50

The current EDU definition considered reduction in flow from housing developments due to the implementation of low-flow water fixtures. It is recommended that the flow per EDU be reduced to 230 gallons per EDU rather than the value used in the 2016 definition, or the 260 gallon per day per EDU calculated previously. Appendix G provides additional details.

The historical BOD and TSS loading data varied each year between 2019 and 2024. It is recommended that the BOD loading value remain unchanged. The new definition of an EDU is, therefore, as follows:

- Flow: 230 gallons per day
- BOD: 0.55 lb/day
- TSS: 0.50 lb/day

2.4 Comparison of OPUD and City Influent Characteristics

Table 2-7 summarizes the results of a 2019-2021 comparison between OPUD and City influent flows and pollutant characteristics and the recommended updated EDU definition. As the following shows, most of the City parameters are within 10 % of the OPUD values, except for the following:

- Flow per EDU – The City's was 20% higher than OPUD's historic value but lower than the recommended EDU definition of 230 gpd/EDU.
- BOD Loading per EDU – The City's was 31% higher than OPUD's historic value. OPUD should monitor this parameter. Potential means to decrease the City's BOD loadings may be required if this parameter increases above the 0.55 pound BOD/EDU definition.

Table 2-7. 2019 to 2021 WWTP and City Influent Flows and Pollutant Characteristics Comparison

Information Source	Parameters	Units	WWTP	City	Difference (%)
Historical Data	EDU	Count	8,650	1,293	N/A
Historical Data	Flow	MGD	1.64	0.30	N/A
Historical Data	BOD	lb/d	3,037	596	N/A
Historical Data	TSS	lb/d	2,963	482	N/A
Calculated Values	BOD	mg/L	222	242	-9
Calculated Values	TSS	mg/L	217	196	10
Calculated Values	Flow	gpd/EDU	190	228	-20[a]
Calculated Values	BOD	lb/ d EDU	0.35	0.46	-31[b]
Calculated Values	TSS	lb/ d EDU	0.34	0.37	-9
Updated EDU Definition	Flow	gpd/EDU	230		
Updated EDU Definition	BOD	lb/ d EDU	0.55		
Updated EDU Definition	TSS	lb/ d EDU	0.50		
Updated EDU Definition	BOD	mg/L	287		
Updated EDU Definition	TSS	mg/L	261		

[a] The City's was 20% higher than OPUD's historic value but below the recommended EDU definition of 230 gpd/EDU.

[b] The City's was 31% higher than OPUD's historic value. the City's flow per EDU, OPUD should monitor this parameter. Potential means to decrease the City's BOD loadings may be required if this parameter increases above the 0.55 lb BOD/EDU definition.

2.5 Proposed Future Flows and Loads Design Criteria

The future flows and loadings shown in Table 2-8 were developed to reflect a 20-year planning horizon, which equates to an approximate ADWF capacity of 5.0 MGD, as shown on Figures 2-1 and 2-2. As described in the Capacity Purchase Agreement, the City has committed to conveying up to 1.5 MGD ADWF to the WWTP. Flows in excess of this amount could be conveyed to either the WWTP or the Linda County wastewater treatment facility in a subsequent phase of City growth.

Table 2-8. Proposed WWTP Flow and Loading Design Criteria[a]

Design Condition	Flow (MGD)	BOD Load (lb/d)	TSS Load (lb/d)
Average Dry Weather	5.0	11,283	9,910
Average Annual	5.5*	12,411*	10,901*
Maximum Month	7.5*	16,924*	14,865*

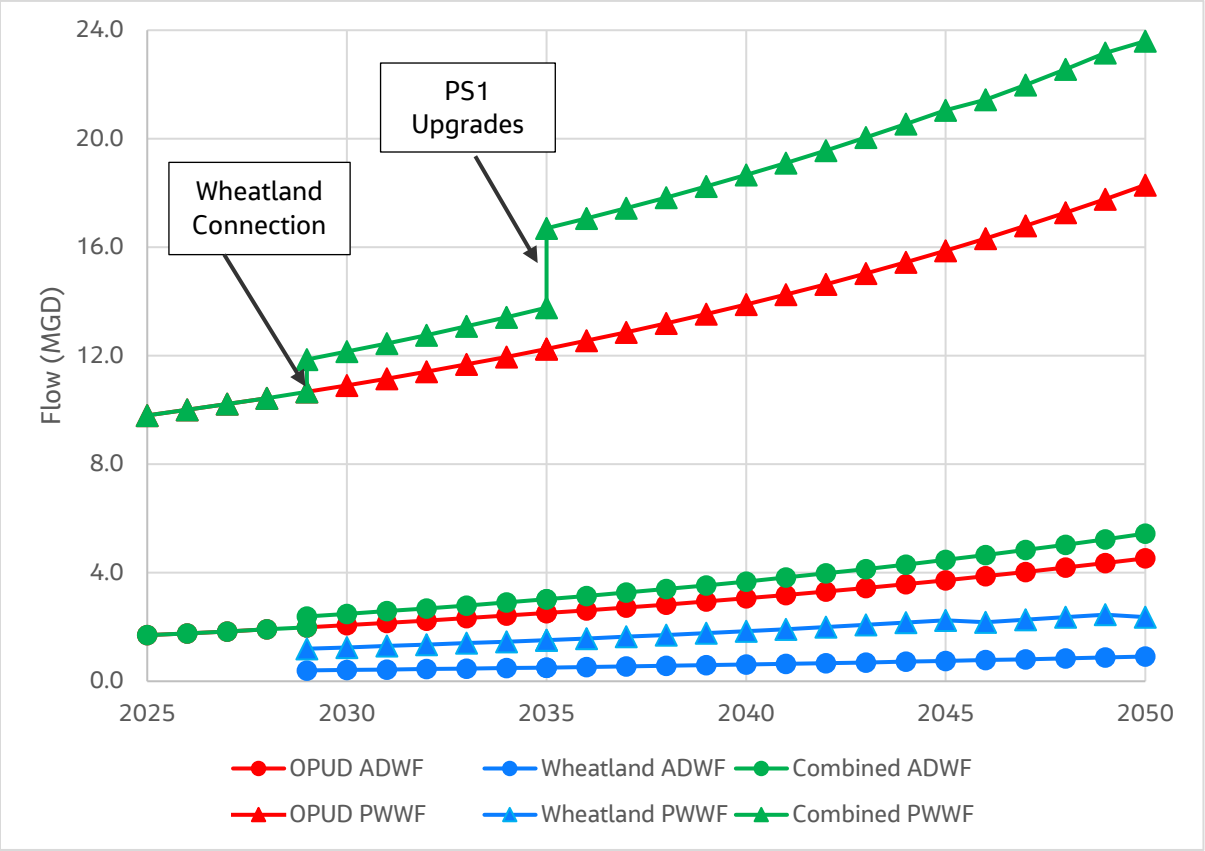
Design Condition	Flow (MGD)	BOD Load (lb/d)	TSS Load (lb/d)
Peak Day	15.0*	21,267**	21,893**
Peak Hour	22.6	N/A	N/A
Equalized Tertiary	17.3	N/A	N/A

[a] To be compared and updated with influent characterization results.

* Based on assumed average dry weather peaking factors of 1.1 for average annual, 1.5 for maximum month flow, and 3.0 for peak day flow.

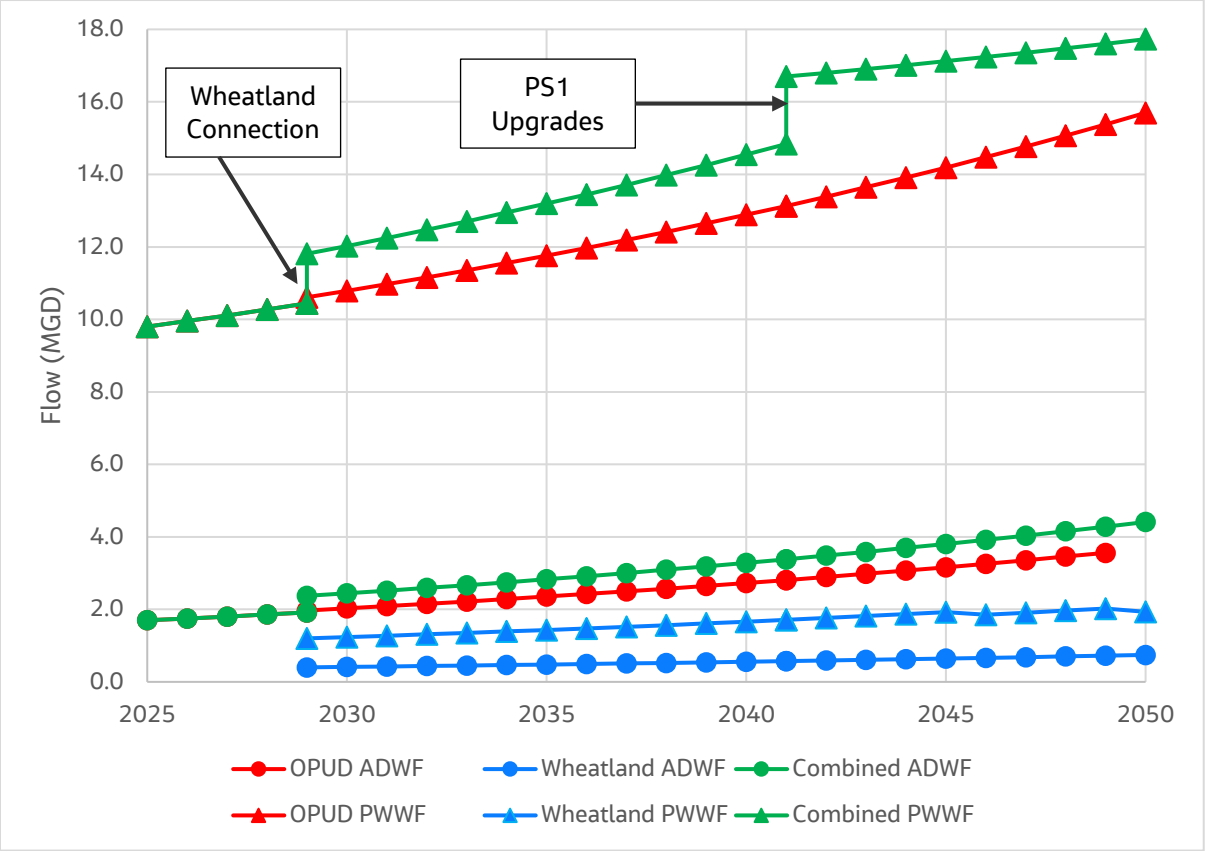
** Based on assumed BOD and TSS concentrations of 170 and 175 mg/L, respectively.

Figure 2-1. Projected Average Dry Weather and Peak Wet Weather Flows (4% Growth Rate - Baseline)



Note: Pump Station 1 assumed to come online when the combined ADWF reaches 3.4 MGD in 2035 which will provide additional PWWF.

Figure 2-2. Projected Average Dry Weather and Peak Wet Weather Flows (3% Growth Rate)



Note: Pump Station 1 assumed to come online when the combined ADWF reaches 3.4 MGD in 2041 which will provide additional PWWF.

3. Alternative Analyses and Site Planning Considerations

The following describe secondary and solids related alternative analyses recommended to be completed during the preliminary design phase of the next WWTP expansion, as described in this section.

3.1 Secondary Treatment Expansion Consideration

Potential options to consider for expanding the existing secondary treatment process from roughly 3.0 to 5.0 MGD ADWF are listed as follows:

1. Continued use and expansion of existing oxidation ditches and secondary clarifiers. Aeration basins, are judged to be similar to the existing oxidation ditches and may be considered during preliminary design as an alternative to oxidation ditches.

2. Addition of new intensified secondary treatment process, such as Mobile Organic Biofilm, integrated fixed-film activated sludge, and/or hydrocyclones, which allow the secondary process to operate at much higher mixed liquor suspended solids concentrations than the existing extended aeration oxidation ditch process. Descriptions of intensification processes and their application at the OPUD WWTP are attached in Appendix I. As described in that appendix, intensification processes are considered innovative at this time and require further review, application, and understanding prior installing at the WWTP. Furthermore, a comprehensive influent characterization is required to properly assess these processes, their potential application at the WWTP, and design. Use in subsequent expansion phases at the WWTP should be considered after more data from newly constructed facilities is available.

It is recommended that comparison of these options be considered later during the preliminary design phase for the 3.0 to 5.0 MGD ADWF expansion, along with full-scale stress testing to better define existing capacity and the best, most cost-effective method to expand WWTP capacity. **Recommendation for planning and budgeting purposes, Option 2, will be used as a placeholder for the recommended improvements.**

3.2 Solids Evaluation and Future Considerations

Similarly to secondary treatment, there are several potential options to consider for expanding solids handling and disposal.

1. Continue use and expansion of existing solids handling and disposal practices consisting of sludge storage ponds and drying beds

2. Continue use and expansion of existing solids handling and disposal consisting of sludge storage ponds and drying beds combined with two new 0.6 million gallon (MG) aerobic digesters with coarse bubble diffusers and new drying beds located within concrete-lined Equalization Storage Basin (ESB)

3. Continue use of existing solids handling and disposal practices up to 3.0 MGD ADWF, mechanical dewatering beyond 3.0 MGD ADWF

4. Convert to digesters and mechanical dewatering

Yuba County input regarding their requirements for the new 30-acre site, costs of consumables (e.g., electricity, labor intensive process, and disposal costs) and their escalation, RWQCB input relative to potential groundwater impacts associated with these options coupled with future resource recovery and regulatory requirement considerations are expected to impact which option is best for OPUD to move forward with. Final answers that can be used for planning and design are unknown at this time and beyond

the scope of this Master Plan Update. Therefore, it is recommended that a detailed comparison of these and other potential alternatives, coupled with consideration of future resource recovery, regulatory requirements, and air emission regulations, be conducted during the preliminary design phase of next expansion project to determine which solids handling option is best for OPUD to move forward with.

For budgeting purposes, the recommended improvements include the addition of two 0.6-MG digesters equipped with coarse bubble diffusers and positive displacement blowers. The current plan is to use the existing smaller diameter secondary clarifiers that are otherwise being abandoned for a portion of this capacity, and the current design that is underway at the time of this Master Plan preparation will provide the remaining capacity for digestion. This overall approach to solids processing also assumes Option 2—that the existing drying beds would continue to be used for dewatering and produce a cake with a significantly higher water content in the range of 50 to 75%, as opposed to the 90%+ cake currently produced at the WWTP. While this cake has a higher water content than is present today, it is still significantly higher than the approximate 22% cake that would be achieved with mechanical dewatering equipment.

3.3 Site Planning Considerations for New Parcel

Results from both alternative analyses described in Section 3.1 and 3.2 will impact site planning of both the original and new parcels. It is anticipated that the new parcel will be used when average dry weather flowrates exceed the 5 mgd level used for the remainder of this Master Plan. The following assumptions, goals, and Yuba County decision were used to develop the recommended site plans shown in Figures 3-1 and 3-2:

- Constructing new facilities at either the parcel located immediately north of the existing headworks or new 30-acre parcel will be incrementally more expensive given that both areas are relatively undeveloped (green grass) and will require new roadways, utilities, grading, excavation, and other site improvements to support any new processes. Based on these assumptions, ADWF capacity within the existing site should be maximized before expanding to these new parcels. The area north of the existing headworks may also have environmental issues (protected wetlands) that would need mitigation, and a more detailed cost/benefit analysis should be conducted before the use of that parcel.
  - Existing site to provide an ADWF capacity of approximately 5.0 MGD (or more) as originally described in previous planning and design documents. This goal is relatively easy to achieve for liquid processes. However, for solids processes, it requires the WWTP to produce wetter cake in the future due to reduced time for drying:
    - Existing ESB to be concrete-lined to avoid groundwater contamination
    - Review and incorporation of these new processes into the NPDES Permit by the RWQCB which may result in other requirements and/or improvements and additional costs
- Discussion with Yuba County regarding the potential use of their drainage area for seasonal drying beds and preliminary layout. Yuba County has previously indicated on a preliminary basis that they are not inclined to permit seasonal use of their portion of the 30 acre parcel for use as drying beds or effluent storage, but that use could result in a win-win condition for both Yuba County and OPUD and it should be considered in the future, if possible.

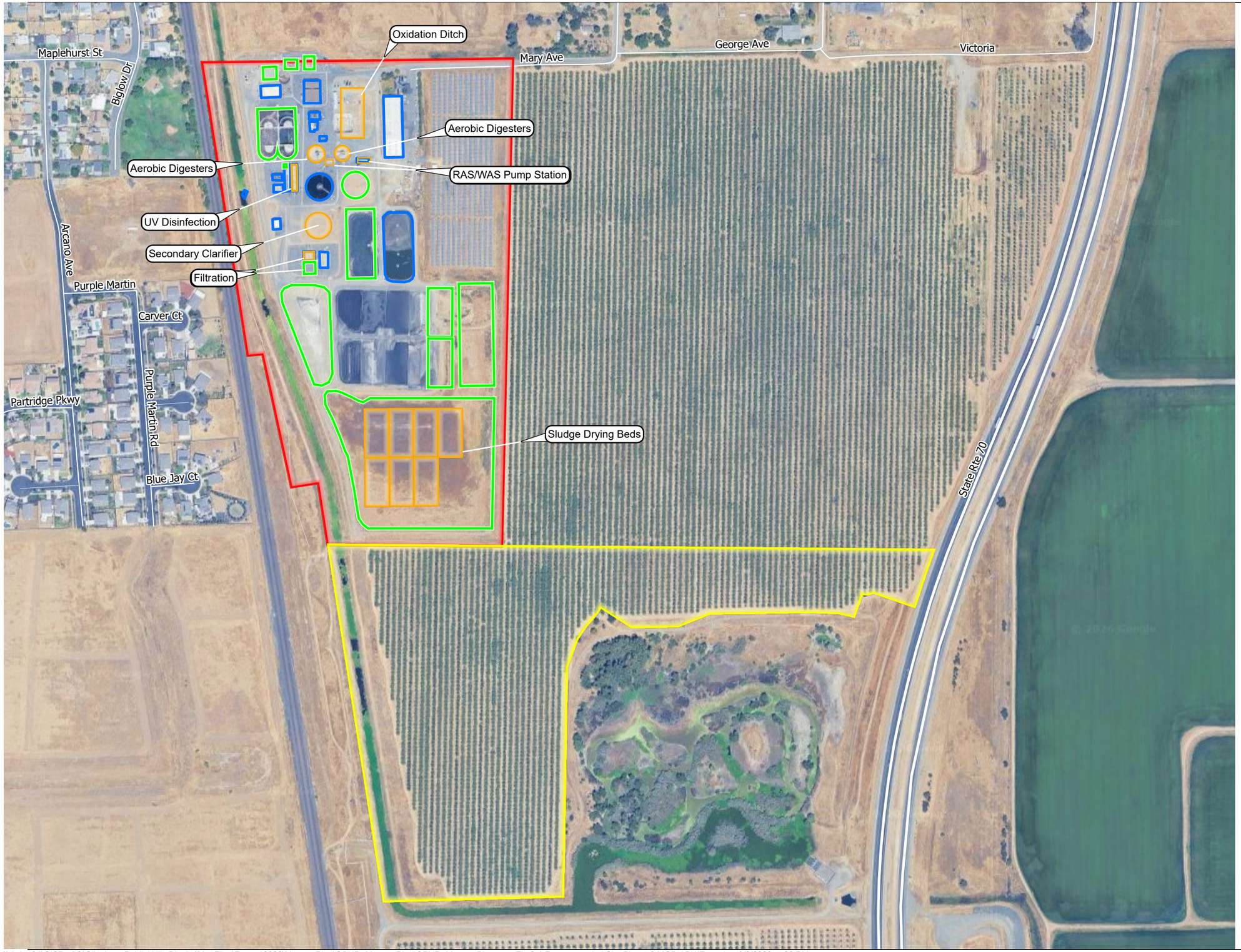
Figures 3-1 and 3-2 show the layout of recommended improvements for ADWF capacities of 5.0 and 15.0 MGD.

- 5.0 MGD ADWF corresponds to the 22-year planning horizon based on a 4% per year annual growth rate for this Master Plan Update and City connection in 2029. Table 3-1 shows a summary of key implementation milestones and timelines.

- 14.0 MGD ADWF corresponds to 50-year planning horizon based on a 4% per year annual growth rate. This flow corresponds to estimated OPUD and City projections which indicate an ADWF of between 12 to 13 MGD at buildout. These projections were rounded up to 14.0 MGD, are considered preliminary, and should be refined in the future using standard land use flow projection development to link projections directly to land use and known phasing plans. These preliminary projections are included in Appendix G for reference.

Table 3-1. Key Implementation Milestones and Timelines.

Timeline	Growth Rate (% per year)	
	4% (Baseline)	3%
Today	2026	2026
City Connection & Regional System Operation	2029	2029
Year 3.0 MGD ADWF Projected to Occur	2035	2038
Year 5.0 MGD ADWF Projected to Occur	2048	2055
Year 14.0 MGD ADWF "Buildout" Projected to Occur	2076	2092





LEGEND

- Existing OPUD WWTP Parcel
- Newly Purchased OPUD WWTP Parcel
- Existing WWTP Facilites
- OPUD WWTP Improvements (Peak Flow and Reliability Upgrades)
- 5-MGD Upgrade WWTP Facilities

Notes:
AD = Aerobic Digester
MGD = Million Gallons per Day
PS = Pump Station
RAS = Return Activated Sludge
UV = Ultraviolet
WAS = Waste Activated Sludge
W2 = Non-Potable Utility Water
WWTP = Wastewater Treatment Plant

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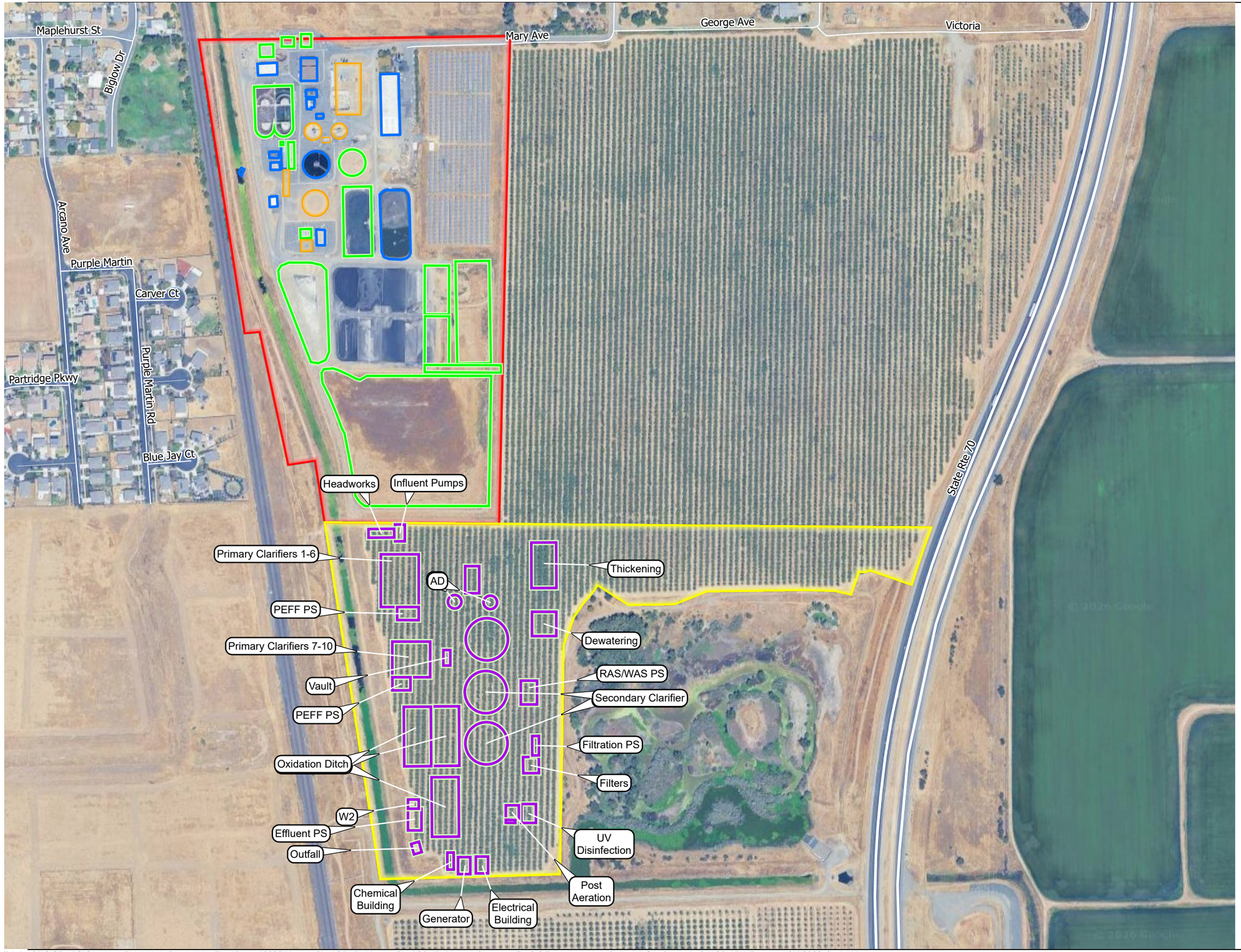
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FIGURE 3-1
Recommended Site Plan
5.0 MGD ADWF
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

\\dc1vs01\GISProj\O\OlivehurstPublicUtilityDistrict\MapFiles\Report\2026\Master_Plan\OPUD_Master_Plan\OPUD_Master_Plan.aprx Fig 3-1 Recommended Site Plan 5.0 MGD ADWF carcher 9/3/2026 5:26 PM





LEGEND

- Existing OPUD WWTP Parcel
- Newly Purchased OPUD WWTP Parcel
- Existing WWTP Facilites
- OPUD WWTP Improvements (Peak Flow and Reliability Upgrades)
- Full Build Upgrade WWTP Facilities
- 5-MGD Upgrade WWTP Facilities

Notes:
AD = Aerobic Digester
PEFF = Primary Effluent
PS = Pump Station
RAS = Return Activated Sludge
UV = Ultraviolet
WAS = Waste Activated Sludge
W2 = Non-Potable Utility Water

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FIGURE 3-2
Recommended "Buildout" Site Plan - 14.0 MGD ADWF
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

\\dc1vs01\GISProj\O\OlivehurstPublicUtilityDistrict\MapFiles\Report\2026\Master_Plan\OPUD_Master_Plan\OPUD_Master_Plan.aprx Fig 3-2 Recommended "Buildout" Site Plan - 15.0 MGD ADWF carcher 9/4/2026 8:51 AM

4. Recommended Improvements and Future Analyses

The following describes the recommended capital improvement plan (CIP) to expand the WWTP to an ADWF capacity of 5.0 MGD. As previously described, the PDR describes the improvements and phasing recommended to provide an ADWF capacity of 3.0 MGD.

The following recommended improvements have been presented to OPUD, discussed, and approved with revision at the February 23, 2026, meeting with the revised CIP submitted to EPS for subsequent development of the estimated connection fee on March 2, 2026. Documents associated with these meetings and discussions are attached in Appendix J.

4.1 Headworks

Headworks consists of screening and grit removal, both of which are located immediately upstream of the Influent Pump Station. Following the completion of the Project, the screening system will be comprised of two self-cleaning perforated plate screens both of which discharge into one washer compactor. These units, along with the manual bypass screen, provide adequate capacity and redundancy and require no improvement over the planning horizon.

Recommended Improvements: It is recommended that an additional grit pump and classifier be added to the existing system, comprised of two vortex grit units.

4.2 Influent Pump Station

The influent pump station (IPS) conveys influent wastewater, post screening and grit removal, to the oxidation ditches. The IPS will have six pumps total after Project completion and the following rated capacity as described in the PDR, which is anticipated to provide adequate capacity through 5.0 MGD ADWF, therefore no improvements are recommended.[5]

Table 4-1. Influent Pump Station Design Criteria and Sizing

Parameter	Value	Units
Number of pumps	6 (5 Duty, 1 Standby)	
Pump type	Submersible Pumps	
Pump Capacity	2 @ 1,600,.4 @ 4,600	gpm
Total Dynamic Head (TDH)	35 max, 20 min, 25 average	feet
Motor size	2 @ 20, 4 @ 60	hp
Firm Capacity	23.1	MGD

gpm = gallon(s) per minute

hp = horsepower

[5] Number of pumps to be installed in the Project has been reduced to one 60 hp pump. It has been assumed that OPUD will install a fourth, 60 hp pump before the 5.0 MGD Expansion Project along with other improvements taken out of the Project and described in the PDR.

4.3 Secondary Treatment

The Phase 1A Improvements included the installation of the OxyStream Process (manufactured by WesTech) for advanced secondary treatment. This process includes two treatment trains, each consisting of an:

- Oxidation Ditch (each 1.5 MG total, with 16-foot side water depth) with two slow speed surface aerators, two submerged flow boosters (mixers), and an anoxic reactor (each 0.35 MG) equipped with two mixers each.
- A mixing/splitter box is located at the head of the oxidation ditches, upstream of the anoxic reactors, where influent flow is mixed with return activated sludge (RAS). This box is equipped with gates to isolate flows from either oxidation ditch, as well as weirs to equally distribute flows between the two ditches.
- A Mixed Liquor Distribution Box equipped with flow splitting weirs for proportion flow splitting.
- Secondary Clarifier 105-foot-diameter with 14-foot side water depths (SWDs).
- RAS/WAS Pump Station (Facility 9A) with three, 2,245 gallons per minute (gpm) centrifugal non-clog pumps, two, 200 gpm WAS centrifugal non-clog pumps; and one 100 gpm scum pump.

A third oxidation ditch train (or a new aeration basin) will be required to expand capacity from 3.0 to 5.0 MGD ADWF capacity. Before reaching the trigger ADWF of 2.5 MGD ADWF, it is recommended that OPUD reevaluate the capacity of the two existing oxidation ditches using full-scale stress testing based on the flows and loadings observed and measured at that time. Design criteria for the third oxidation ditch and secondary clarifier should be determined based on updated influent characterization and stress testing and the desired capacity of 5.0 MGD ADWF.

4.3.1 Oxidation Ditch

According to the previous Master Plan, the existing oxidation ditches have the capacity to treat up to approximately 1.75 MGD ADWF each, for a total estimated treatment capacity of 3.8 MGD ADWF. However, within the past 2 or 3 years, the plant manager has begun to operate the second oxidation ditch continuously and initiated this change when the ADWF was 1.7 MGD, which implies a rated ADWF capacity of only 3.4 MGD. A possible explanation for this discrepancy is water conservation, which causes the influent wastewater stream to become more concentrated and thus require more oxygen, residence time, etc. to treat.[6] To address this discrepancy, it is recommended that wastewater influent characterization and full-scale stress testing be conducted to better define existing capacity, both of which would be completed as part of preliminary design for the next expansion phase as described previously in Section 3.1.

Recommendation: As described in the previous Master Plan and included in the PDR, a shelf-ready spare aerator gearbox and drive (or multiple of both) should be provided. OPUD should also consider having shelf-ready spares for other critical equipment throughout the WWTP.

Recommended Improvements: Add one oxidation ditch with valve vault and aerators.

[6] Comparison of Phase 1A BOD ADWF Design Criteria of 260 mg BOD/L with the Updated EDU Definition of 300 mg BOD/L indicates an increase of 15 percent. However, current BOD concentrations derived from historic data indicate a current influent BOD concentration of about 260 mg/L; essentially the same as Phase 1A Design Criteria.

4.3.2 Secondary Clarifier

A third secondary clarifier is required to operate in parallel with the two existing clarifiers installed both in 2004 and in the current Project. This additional clarifier provides redundancy during average flow conditions, improves solids separation during high flow conditions that currently result in solids carryover to the filtration system which decreases the WWTP's wet weather capacity. The proposed clarifier will be installed with a spiral blade and sludge ring for enhanced sludge concentration for 1:12 slopes just like the unit that will be installed in the Project.

Recommended Improvements: Add one 105-foot, 14-foot SWD secondary clarifier with splitter box.

Table 4-2. Process Design Criteria for Secondary Clarifiers

Parameter	Existing	New
Number of clarifiers	2	1
Diameter of each clarifier	105-foot	105-foot*
Slope (vert:horiz)	1:12	1:12
Type	Multiple Riser Pipe & Spiral Blade	Spiral Blade
Sidewater depth	14 feet	14 feet*
Overflow rate, peak day flow	580 gpd/ft^2	
Overflow rate, peak hour flow	870 gpd/ft^2	
Maximum Solids Loading Rate, max month conditions	27 lbs/day-ft^2	

* Design criteria may vary depending on influent characterization and stress testing results.

gpd/ft^2 = gallons per day per square foot

lbs/day-ft^2 = pound(s) per day per square foot

4.3.3 RAS/WAS Pumping

A new RAS/WAS pump station will be required for the new clarifier and to increase capacity similar in capacity to existing.

RAS pumping is typically designed to be flow paced based on the influent flow at a rate of 50 to 100% of the maximum month flow. Each secondary clarifier will have a dedicated RAS pump and a swing RAS pump. Two existing WAS pumps operate in a duty/standby configuration. The WAS pumps are also connected to the suction header of the RAS pumps. When sludge needs to be wasted, the WAS pumps will discharge to one of the aerobic digesters.

Recommended Improvements: 1, RAS and WAS Pumping Station added with 2 RAS and 2 WAS pumps.

4.4 Filter Influent Pumping Station

The Project will increase filtration capacity (equalized tertiary) to 11.5 MGD as described in the PDR by installing two new 20-disk filter units, replacing the discs in the three existing filter units, and installing one additional filter influent pump within the existing filter influent pumping station (FIPS).[7] Existing flow equalization before the filtration system will be maintained to attenuate secondary effluent peak flows. Secondary effluent is conveyed to the FIPS wet well and pumped to the cloth-media disk filters. Flow that

[7] The number of filter units has been reduced from two to one new unit and the FIPS pump addition has been eliminated. It has been assumed that OPUD will make these improvements before the 5.0 MGD Expansion Project.

exceeds the available pumping and filtration capacity will be diverted, by gravity, to the existing lined Flow Equalization Basin (FEB) located south of the filter facility.

Recommended Improvements: As noted in Table 2-7, a total firm capacity of 17.3 MGD is required to accommodate the future 5.0 MGD ADWF. Additional capacity will be provided by installing three, new 4,300-gpm pumps.

4.5 Tertiary Filtration

Contract 3 and the Interim Project will increase filtration capacity by adding two, 20 disks units, which is estimated to provide an equalized tertiary flow capacity of 11.5 MGD. Additional filters will be required to accommodate the projected equalized tertiary flow of 17.3 MGD. It is anticipated that the three existing 12-disk filter units will be replaced with 20-disk filter units to provide this increased capacity

Recommended Improvements: Install three new filter units with 20 disks AASI MegaDisk (outside in) to replace the three existing 12-disk filter units.

4.6 UV Disinfection

Contract 3 and the Interim Project will demolish the existing UV equipment and install UV banks with current lamp technology within three of the four existing channels providing treatment up to 11.5 MGD, which is the hydraulic capacity of the three UV channels. It is recommended that new UV equipment be installed in the fourth channel to expand disinfection capacity from 11.5 to 17.3 MGD.

Recommended Improvements: Add one UV disinfection channel for total of four.

4.7 Effluent Pumping and Outfall

No additional effluent pumping or outfall expansion are required for the Project. The maximum elevation in the South Olivehurst Detention Basin is 55.31 based on North American Vertical Datum of 1988 (NAVD88) and 57.61 based on FEMA datum, and the WWTP effluent weir elevation is 57.1 based on NAVD88 datum. However, these elevations should be verified before the 5.0 MGD ADWF expansion and the hydraulic capacity verified to ensure adequate effluent pumping and/or outfall capacity are provided due to the potential changes associated with the WPIC and South Olivehurst Detention Basin operations and requirements.

Recommended Placeholder Improvement: Add three 4,300-gpm pumps.

4.8 Solids Handling and Disposal

Section 3.2 describes four options for expanding solids handling and disposal capacity, with the most likely being either Options 2 or 3. For budgeting purposes, the CIP cost estimate is based on Option 2.

4.9 Emergency Generator

The reliability of power is critical to WWTP operation. Installation of a large, standby emergency generator capable of running critical facilities such as the oxidation ditch, filters, UV, etc. is recommended. However, the operation of this generator should be coordinated with the existing standby generator and onsite storage.

Recommended Improvements: One 2,000-kilowatt (kW) emergency generator ($4.0 million).

4.10 Odor Control

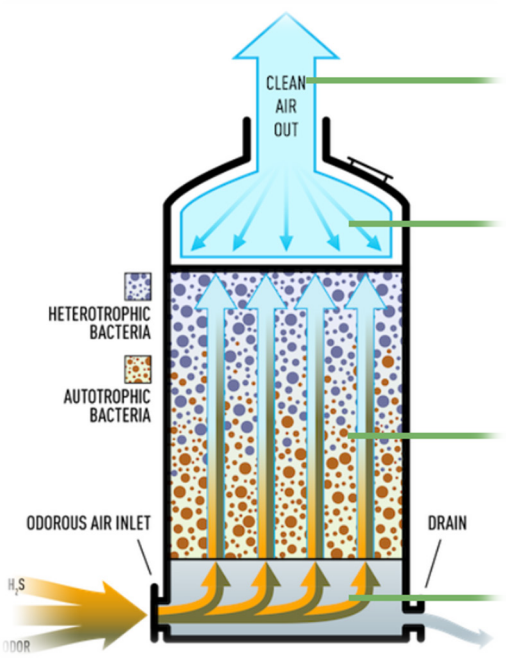
Installation of a new odor control system is recommended to treat odors from the headworks, which is located within close proximity to nearby residents. Odor control improvements would likely have been added to the current Project but for a lack of funding for this improvement. This system would include the following:

- Covered channels
- Grit chambers
- Fine screens
- IPS wetwell (enclosed)
- Grit classifiers

The existing channels have open grates that would be replaced by aluminum or fiber-reinforced plastic (FRP) covers. The grit chamber and IPS wetwell will also be covered to contain odor. The fine screens and grit classifier have enclosures with connections available to odor control. FRP duct is used to convey foul air (FA) to the odor control system.

A biological odor control technology would include biofiltration and biotrickling filters (BTFs). In a BTF, FA enters the bottom of the tower and flows upward through an inert media material and exits through an exhaust stack. Plant water is sprayed at the top of the media, trickles downward through the media and collects in the sump where it exits to the drain system. The water exits the system at a low pH (approximately 2), due to the oxidation of hydrogen sulfide (H_2S) by the bacteria. The bacteria contained in the media also use other compounds in the airstream as a food source, including ammonia and various organic reduced sulfur compounds. Achievable removal rates are typically up to 99% for H_2S and 90% for general odor.

Figure 4-1. Biotrickling Filter Schematic



In a BTF, the irrigation system is intermittent and once-through, resulting in development of more diverse bacteria types relative to systems that recirculate the irrigation water (aka Bioscrubber).

A simplified schematic of a BTF is shown in the graphic. A nutrient dosing system is typically supplied with the system to provide additional nutrients (mainly phosphorous and nitrogen) to foster a healthy bacterial population. In some cases, the plant water and/or odorous constituents contain adequate nutrient content, and the nutrient system is not necessary. However, nutrients are necessary during the initial acclimation of the system.

5. Implementation Plan

The recommended implementation plan for the CIP necessary to expand the WWTP capacity from 3.0 to 5.0 MGD ADWF is described in this section.

5.1 Phasing and Triggers

The recommended improvements must be planned, designed, bid, awarded, construction, started up and commissioned before the WWTP reaches 3.0 MGD ADWF, which is anticipated to occur in approximately 9 years (year 2035) after the City connects to the WWTP based on a 4% growth rate. If a lower growth rate occurs, like 3%, this timeline will be increased to 12 years (year 2038).

The construction of improvements to increase capacity from 3 to 5 MGD (ADWF) will be conducted in a single construction phase because

1. The addition of the South County Service Area and the City service area will increase the overall growth rate that has been seen historically.

3. The construction of improvements in a single construction phase will decrease overall costs. Another important consideration is that it is cost prohibitive to construct only a portion of many of the required unit processes necessary for this expansion.

It is anticipated that planning, design, bidding, award, construction, starting up and commissioning will require approximately 5 years to complete, which means that planning, design, bidding, award, construction, starting up and commissioning start approximately 4 years from now (year 2030), when the ADWF is projected to reach 2.5 MGD ADWF. This timeline is again based on a 4% growth rate in both the OPUD service area and the City. If a lower growth rate occurs, like 3%, this timeline will be increased to 7 years (year 2033) when ADWFs reach 2.6 MGD.

A future expansion will be required to be in service when the flow reaches 5.0 MGD ADWF, which is projected to occur in 22 years (year 2048) based on a 4% growth rate. If a lower growth rate occurs, like 3%, this timeline will be increased to 29 years (year 2055).

Table 5-1 presents a summary of recommended improvements phases and associated ADWF trigger which indicates the timeline when these improvements phases should be initiated in order to have the improvements installed before WWTP capacity is exceeded.

Table 5-1. Recommended Improvement Phasing and Triggers

Improvement Phase	Recommended Action	ADWF Trigger (MGD)
3.0 – 5.0 MGD ADWF	Start Planning, Permitting, Designing, Bidding, Awarding, Constructing, Starting up, and Commissioning	2.5
5.0 TBD MGD ADWF		4.1

5.2 Estimate of Probable Construction and CIP Costs

Table 5-2. Estimate of Probable Construction and Capital Improvement Costs

Unit Process	Description of Improvement	Opinion of Probable Construction Costs ($M)
3.0 to 5.0 MGD ADWF Expansion		
Headworks	Add one grit pump and one grit classifier	0.7
Influent Pumping Station	None	-
Secondary Treatment		
Aeration Basin	Add one 1.6-MG basin	13.9
Secondary Clarifier	Add splitter box and one 105-diameter, 14-foot SWD clarifier	7.9
RAS/WAS Pumping		5.0
FIPS	Add three, 4300-gpm pumps	7.4
Tertiary Filtration	Install three new filter units with 20 disks to replace three existing filter units	6.1
UV Disinfection	Add one UV disinfection channel	5.3
Effluent Pumping Station	None	-
Outfall	None	-
Solids Handling and Disposal	Continued use and expansion of current methods; Add two new 0.6-MG aerobic digesters and drying beds within concrete-lined Equalization Storage Basin	16.7
Emergency Generator	Add one 2,000-kW	4.0
Odor Control	Cover and install odor for headworks channels, grit chambers, fine screens, IPS wet well, and grit classifiers	1.0
	Opinion of Probable Construction Cost	**68**
	Engineering, Legal, Administration, Construction Management, and Services During Construction	12
	Total Project Cost	**80**
Interim Project – Improvements To Be Completed After Contract 3 and Before 3.0 to 5.0 MGD Expansion[a]		
Headworks	Replace existing perforated plate screen	
	Replace grit pumps and grit processing equipment includes two cyclones, grit classifier, and appurtenances	
Influent Pumping Station	Replace existing pumps (2-20 HP and 2-60 HP) and add 1-60 HP pump	
Secondary Treatment		
Oxidation Ditches	Replace surface aerator gearboxes	
Secondary Clarifiers	None	
RAS/WAS Pumping	None	
FIPS	Add one new pump to existing wet well	
Tertiary Filtration	Install one new filter unit with 20 disks	
UV Disinfection	Replace Channel 1 and 2 UV equipment with newer technology	
Chemical Addition		

Unit Process	Description of Improvement	Opinion of Probable Construction Costs ($M)
Operations Building	Remodel and modify to support work areas	
Maintenance Shop	New building, approximately 2,300 square feet with space for maintenance, welding, storage, a truck bay, office, and restroom	
Site Improvements	New pavement at digester and south location	
Back-up/Shelf-Ready Spares	Aerator gearbox and drive (or multiple of both) and spares for other critical equipment as deemed necessary by OPUD	

FIPS = filter influent pumping station

IPS = influent pump station

kW = kilowatt(S)

UV = ultraviolet

RAS = return activated sludge

SWD = side water depth

WAS = waste activated sludge

[a] Depending on funding availability, influent flows and availability capacity, OPUD may elect to include some of the listed Interim Project improvements in the 3 to 5 MGD ADWF Expansion Project.

6. New Users Contribution to Repair and Replacement Costs

In addition to paying their fair share of costs for WWTP expansion, new users should also be paying for their share of plant repair and replacement (R&R) costs. After the last OPUD WWTP expansion that was completed in 2007 there was no component of the Capital Connection Fee that included repair and replacement costs. It was assumed that the major growth rate that was present in 2004, 2005, and 2006 would continue and the need to capture costs related to repair and replacement was therefore unnecessary (since the unused capacity would be quickly taken up by new users), but a major recession occurred soon after the plant construction was completed. As a result, the higher growth rate that was in place prior to the recession was significantly reduced, resulting in capacity being available for an extended time with no ability to fund a portion of the necessary repair and replacement costs; existing users were, during that time, paying for a portion of the R&R costs as part of their monthly Operations and Maintenance (O&M) bill. While this was an extreme situation that was caused by the recession, the concept of constructing WWTP capacity in advance of its need should be considered when setting overall WWTP connection fees; this is because plant components degrade over the course of time and replacement at the end of equipment service life is required whether or not those components are being used to treat sewage or if those same components are unused. By simply being in the same harsh environment as other equipment that is being utilized results in a need for replacement of equipment on typically a 20-year basis; concrete structures have a considerably longer service life, usually measured in the range of 75 or more years. Wastewater agencies typically construct improvements to their wastewater plants in advance of the need for that capacity in order to allow orderly growth within their service areas, and since the beneficiaries of that initially unused capacity are future users it is therefore the case that those future users should pay for their share of repair and replacement. As noted above, existing users pay for their proportionate share of repair and replacement costs as part of their Operations and Maintenance (O&M) bill that they receive on a monthly basis (OPUD sends that portion of the monthly O&M bill that covers repair and replacement to their Capital Reserve Fund); future users do not receive any monthly O&M bill for wastewater service, so therefore another method must be used to collect their fair share of that repair and replacement cost that has been incurred, but not currently collected. The introduction of an R&R component to the Capital Connection Fee could also be considered as a “catch up” fee; this is because existing users have, since completion the last treatment plant expansion in 2007 been paying a portion the R&R costs, but future users have paid nothing. Inclusion of an R&R component to the Capital Connection Fee brings those new users back to equal footing with respect to R&R payments. When each future user actually connects to the system, that user will become an existing user, and continue to pay the R&R portion that is assigned to existing users and captured as part of the monthly O&M bill that is sent to existing users.

Finally, if future users do not pay their share of R&R, then the OPUD Capital Reserve Fund will not be fully funded. And there is no other source of funding for this need. OPUD can only collect R&R monies from existing users in proportion to their use of the WWTP. The equitable approach for R&R is to assign costs to both existing and new users in proportion to the benefit that each receives, and as noted above new users benefit from the construction of capacity that is greater than current demand.

6.1 Assumptions for the Repair and Replacement component of the Capital Connection Fee

There are a number of methodologies that can be used to calculate an appropriate R&R component of the Capital Connection Fee for the OPUD WWTP, and it is beyond the scope of this report to select any specific methodology. It is recommended that EPS work with OPUD to evaluate options and select the method that can be supported by the specific conditions for the OPUD WWTP.

Appendix A
National Pollutant District Elimination System CA0077836 Order R5-2021-0024

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

11020 Sun Center Drive, #200 Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • Fax (916) 464-4645
Central Valley Home Page (http://www.waterboards.ca.gov/centralvalley)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0077836
ORDER R5-2021-0024

WASTE DISCHARGE REQUIREMENTS FOR THE OLIVEHURST PUBLIC UTILITY DISTRICT WASTEWATER TREATMENT FACILITY YUBA COUNTY

THE FOLLOWING DISCHARGER IS SUBJECT TO WASTE DISCHARGE REQUIREMENTS (WDR'S) SET FORTH IN THIS ORDER:

Table 1. Discharger Information

Discharger:	Olivehurst Public Utility District
Name of Facility:	Wastewater Treatment Facility
Facility Street Address:	3908 Mary Avenue
Facility City, State, Zip:	Olivehurst, CA 95961
Facility County:	Yuba

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated Municipal Wastewater	39º 03' 55" N	121º 33' 08" W	Western Pacific Interceptor Canal

Table 3. Administrative Information

This Order was Adopted on:	**22 April 2021**
This Order shall become effective on:	**1 June 2021**
This Order shall expire on:	**31 May 2026**
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a NPDES permit no later than:	**31 May 2025**
The United States Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	**Major discharge**

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **22 April 2021**.

_____
PATRICK PULUPA, Executive Officer

WASTE DISCHARGE REQUIREMENTS
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I. FACILITY INFORMATION

Information describing the Wastewater Treatment Facility (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Central Valley Water Board), finds:

A. Legal Authorities. This Order serves as waste discharge requirements (WDR's) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDR's in this Order.

B. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of Public Resources Code.

C. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through H are also incorporated into this Order.

D. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections V.B, and VI.C.4 are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

E. Monitoring and Reporting. 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged,

discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports."

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

F. Notification of Interested Persons. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

G. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2016-0001 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

D. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

E. **Average Dry Weather Flow**. Discharges exceeding an average dry weather flow of 3.0 million gallons per day (MGD) are prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point EFF-001. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-001, as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations:

Table 4. Effluent Limitations

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celcius	milligrams per liter (mg/L)	10	15	--
Total Suspended Solids (TSS)	mg/L	10	15	--
Copper, Total Recoverable	Micrograms per liter (µg/L)	11	--	17
Ammonia (Total as Nitrogen)	mg/L	1.6	3.6	--
Nitrate plus Nitrite (Total as Nitrogen)	mg/L	10	19	--

b. **pH**:

i. 6.5 Standard Units (SU) as an instantaneous minimum.

ii. 8.5 SU as an instantaneous maximum.

c. **Percent Removal:** The average monthly percent removal of 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) shall not be less than 85 percent.

d. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and

ii. 90%, median for any three consecutive bioassays.

e. **Chronic Whole Effluent Toxicity.** – **Effective 1 June 2028**. The effluent chronic toxicity shall not exceed 1 chronic toxicity unit (as 100/NOEC) **AND** a percent effect of 25 percent (%) at 100 percent (%) effluent, for any endpoint as the median of up to three consecutive chronic toxicity tests within a six-week period.

f. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured immediately after disinfection:

i. 2.2 most probable number per 100 milliliters (MPN/100 mL), as a 7-day median.

ii. 23 MPN/100 mL, more than once in any 30-day period; and

iii. 240 MPN/100 mL, at any time.

g. **Electrical Conductivity @ 25°Celsius.** For a calendar year, the calendar average annual electrical conductivity concentration shall not exceed 875 µmhos/cm.

h. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified below:

i. Average Monthly Effluent Limitation (AMEL)

$$S_{AMEL} = \frac{C_{D\,M-AVG}}{0.079} + \frac{C_{C\,M-AVG}}{0.012} < 1.0$$

$C_{D\ M\text{-}AVG}$ = average monthly diazinon effluent concentration in µg/L.

$C_{C\ M\text{-}AVG}$ = average monthly chlorpyrifos effluent concentration in µg/L

ii. Average Weekly Effluent Limitation (AWEL)

$$S_{AWEL} = \frac{C_{D\,W-AVG}}{0.14} + \frac{C_{C\,W-AVG}}{0.021} \leq 1.0$$

$C_{D\ W\text{-}AVG}$ = average weekly diazinon effluent concentration in µg/L

$C_{C\ W\text{-}AVG}$ = average weekly chlorpyrifos effluent concentration in µg/L

2. Interim Effluent Limitations

The Discharger shall maintain compliance with the following interim effluent limitation at Discharge Points 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E:

a. **Chronic Whole Effluent Toxicity.** Effective immediately and until **31 May 2028**, the effluent chronic toxicity shall not exceed 16 TUc (as 100/NOEC) **AND** a percent effect of 25 percent at 6.25 percent effluent, for any endpoint as the median of up to three consecutive chronic toxicity tests within a 6-week period. This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for chronic whole effluent toxicity as specified in section IV.A.1.e until **31 May 2028**.

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in the Western Pacific Interceptor Canal:

1. **Biostimulatory Substances**. Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

2. **Chemical Constituents**. Chemical constituents to be present in concentrations that adversely affect beneficial uses.
3. **Color**. Discoloration that causes nuisance or adversely affects beneficial uses.
4. **Dissolved Oxygen**:
    a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
    b. The 95-percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
    c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
5. **Floating Material**. Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
6. **Oil and Grease**. Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
7. **pH**. The pH to be depressed below 6.5 nor raised above 8.0 standard units.
8. **Pesticides**:
    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
    b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
    c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;
    d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 CFR section 131.12.);
    e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
    f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCL's) set forth in CCR, Title 22, division 4, chapter 15; nor
    g. Thiobencarb to be present in excess of 1.0 µg/L.
9. **Radioactivity**:
    a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

b. Radionuclides to be present in excess of the MCL's specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.

10. **Suspended Sediments**. The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

11. **Settleable Substances**. Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

12. **Suspended Material**. Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

13. **Taste and Odors**. Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

14. **Toxicity**. Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

15. **Turbidity**.

    a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;
    b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;
    c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;
    d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor
    e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

Release of waste constituents from any portion of the Facility shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality or water quality objectives, whichever is greater. The discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

   a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.

   b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

      i. violation of any term or condition contained in this Order;

      ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

      iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

      iv. a material change in the character, location, or volume of discharge.

      The causes for modification include:

      i. New regulations. New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

      ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

      iii. Change in sludge use or disposal practice. Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

      The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

   c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

      The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

   i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

   ii. Controls any pollutant limited in the Order.

   The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

i. Safeguard to electric power failure:

   i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

   ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

   iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing

safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

   The technical report shall:

   i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

   ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

   iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

   The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and

3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

n. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

o. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

p. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

q. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. **Whole Effluent Toxicity (WET).** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a revised chronic toxicity effluent limitation, a revised acute toxicity effluent limitation, and/or an effluent limitation for a specific toxicant identified in a TRE. Additionally, if the State Water Resources Control Board (State Water Board) revises the SIP's toxicity control provisions, this Order may be reopened to implement the new provisions.

c. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

d. **Ultraviolet (UV) Disinfection Operating Specifications.** The UV operating specifications in this Order are based on the UV guidelines developed by the National Water Research Institute and American Water Works Association Research Foundation titled, "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse." If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water, this Order may be reopened to modify the UV operating specifications.

e. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S.

EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) web page: (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

2. Special Studies, Technical Reports, and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation Requirements.** This Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity. If the discharge exceeds the chronic toxicity thresholds defined in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. Alternatively, under certain conditions as described in this provision below, the Discharger may participate in an approved Toxicity Evaluation Study (TES) in lieu of conducting a site-specific TRE.

i. **Numeric Toxicity Monitoring Trigger.** The numeric Toxicity Unit (TUc) monitoring trigger is 1 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to initiate additional actions to evaluate effluent toxicity as specified in subsection ii, below.

ii. **Chronic Toxicity Monitoring Trigger Exceeded.** When a chronic whole effluent toxicity result during routine monitoring exceeds the chronic toxicity monitoring trigger, the Discharger shall proceed as follows:

(a) **Initial Toxicity Check**. If the result is less than or equal to 1.3 TUc (as $100/EC_{25}$) **OR** the percent effect is less than 25 percent at 100 percent effluent, check for any operation or sample collection issues and return to routine chronic toxicity monitoring. Otherwise, if the result is greater than 1.3 TUc (as $100/EC_{25}$) AND the percent effect is greater than or equal to 25 percent at 100 percent effluent, proceed to step (b).

(b) **Evaluate 6-week Median**. The Discharger may take two additional samples within 6 weeks of the initial routine sampling event exceeding the chronic toxicity effluent limitation to evaluate compliance using a 6-week median. If the 6-week median is greater than 1.3 TUc (as $100/EC_{25}$) and the percent effect is greater than 25 percent at 100 percent effluent, proceed with subsection (c). Otherwise, the Discharger shall check for any operation or sample collection issues and return to routine chronic toxicity monitoring. See Compliance

Determination Section VII.F for procedures for calculating 6-week median.

(c) **Toxicity Source Easily Identified.** If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall resume routine chronic toxicity monitoring; If the source of toxicity is not easily identified the Discharger shall conduct a site-specific TRE or participate in an approved TES as described in the following subsections.

(d) **Toxicity Evaluation Study (TES).** If the percent effect is less than or equal to 50 percent at 100 percent effluent, as the median of up to three consecutive chronic toxicity tests within a 6-week period, the Discharger may participate in an approved TES in lieu of a site-specific TRE. The TES may be conducted individually or as part of a coordinated group effort with other similar dischargers. If the Discharger chooses not to participate in an approved TES, a site-specific TRE shall be initiated in accordance with subsection (e), below. Nevertheless, the Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a site-specific TRE within the past 12 months and has been unsuccessful in identifying the toxicant.

(e) **Toxicity Reduction Evaluation (TRE).** If the percent effect is greater than 50 percent at 100 percent effluent, as the median of three consecutive chronic toxicity tests within a 6-week period, the Discharger shall initiate a site-specific TRE as follows:

(i) **Within thirty (30) days** of exceeding the chronic toxicity effluent limitation, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

- Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
- Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
- A schedule for these actions.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall continue to implement a salinity evaluation and minimization plan to identify and address sources of salinity discharged from the Facility.

The Discharger shall evaluate the effectiveness of the salinity evaluation and minimization plan and provide a summary with the Report of Waste Discharge.

4. Construction, Operation and Maintenance Specifications

a. **Filtration System Operating Specifications.** To ensure the filtration system is operating properly to provide adequate disinfection of the wastewater, the turbidity of the filter effluent measured at Monitoring Location FIL-001 shall not exceed:

i. 2 NTU as a daily average;

ii. 5 NTU more than 5 percent of the time within a 24-hour period; and

iii. 10 NTU, at any time.

b. **Ultraviolet (UV) Disinfection System Operating Specifications.** The UV disinfection system must be operated in accordance with an operations and maintenance program that assures adequate disinfection, and shall meet the following minimum specifications to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water:

i. UV Dose. The minimum hourly average UV dose in the UV reactor shall be 100 millijoules per square centimeter (mJ/cm2).

ii. UV Transmittance. The minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at UVS-001 shall not fall below 55 percent.

iii. The lamp sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.

iv. The lamp sleeves must be cleaned periodically as necessary to meet the UV dose requirements.

v. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.

c. **Treatment Pond Operating Requirements**.

i. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.

ii. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

iii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

iv. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

(a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

(b) Weeds shall be minimized.

(c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

v. Freeboard shall not be less than 2 feet (measured vertically to the lowest point of overflow as a monthly average and never less than 1 foot at any time.

vi. Objectionable odors shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.

vii. As a means of discerning compliance with Specification c.iv, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

viii. The 6-acre, clay-lined, flow equalization basin shall be operated per the Standard Operating Procedures submitted by the Discharger on 2 November 2020.

d. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs)

a. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. Part 503.

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance. The

treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations in section V.B. of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations included in section V.B. of this Order.

ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. Part 503 whether or not they have been incorporated into this Order.

iii. The onsite sludge/biosolids treatment, processing, and storage for the Facility is described in the Fact Sheet (Attachment F, section II.A). Any proposed change in the onsite treatment, processing, or storage of sludge/biosolids shall be reported to the Executive Officer at least 90 days in advance of the change and shall not be implemented until written approval by the Executive Officer.

6. Other Special Provisions

a. **Title 22, or Equivalent, Disinfection Requirements.** Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the State Water Board, Division of Drinking Water (DDW) reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent.

7. Compliance Schedules

a. **Compliance Schedules for Final Effluent Limitation for Chronic Whole Effluent Toxicity.** This Order requires compliance with the final effluent limitations for chronic WET specified in section IV.A.1.e of this Order by **31 May 2028**. The Discharger shall comply with the time schedule shown in the Technical Reports Table E-12 to ensure compliance with the final effluent limitation.

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (Section IV.A.1.a). Compliance with the final effluent limitations for BOD_5 and TSS required in Waste Discharge Requirements section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements section IV.A.1.c for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic

mean of the values for influent samples collected at approximately the same times during the same period.

B. Average Dry Weather Flow Prohibition (Section III.e). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge prohibition will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

C. Total Coliform Organisms Effluent Limitations (Section IV.A.1.f.). For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 2.2 per 100 milliliters, the Discharger will be considered out of compliance.

D. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined in accordance with section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:
    a. sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or
    b. sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).
3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
    a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
    b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or

DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall **not** be deemed out of compliance.

E. Dissolved Oxygen Receiving Water Limitation (Section V.A.4.a-c). The Facility provides a high level of treatment including tertiary filtration and nitrification, which results in minimal dissolved oxygen impacts in the receiving water. Monthly receiving water monitoring is required in the Monitoring and Reporting Program (Attachment E) and is sufficient to evaluate the impacts of the discharge and compliance with this Order. Monthly receiving water monitoring data, measured at monitoring locations RSW-001 and RSW-002, will be used to determine compliance with part "c" of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the receiving water to be reduced below 7.0 mg/L at any time. However, should more frequent dissolved oxygen and temperature receiving water monitoring be conducted, Central Valley Water Board staff may evaluate compliance with parts "a" and "b".

F. Chronic Whole Effluent Toxicity Effluent Limitation (Section IV.A.1.e and IV.A.2.a). To evaluate compliance with the chronic whole effluent toxicity effluent limitations, the median TUc shall be the median of up to three consecutive chronic toxicity bioassays during a six-week period. This includes a routine chronic toxicity monitoring event and two subsequent optional compliance monitoring events. If additional compliance monitoring events are not conducted, the median is equal to the result for the routine chronic toxicity monitoring event. If only one additional compliance monitoring event is conducted, the median will be established as the arithmetic mean of the routine monitoring event and compliance monitoring event.

In determining compliance with the final effluent limitation in sections IV.A.1.e (**effective 1 June 2028**), where the median chronic toxicity units exceed 1 TUc (as 100/NOEC), the Discharger will be deemed out of compliance with the final chronic toxicity effluent limitation if the median chronic toxicity units for any endpoint also exceed a reporting level of 1.3 TUc (as 100/EC25) AND the percent effect at 100 percent effluent exceeds 25 percent. The percent effect used to evaluate compliance with the final chronic toxicity effluent limitation shall be based on the chronic toxicity bioassay result(s) from the sample(s) used to establish the median TUc result, as described in the paragraph above. If the median TUc is based on two equal chronic toxicity bioassay results, the percent effect of the sample with the greatest percent effect shall be used to evaluate compliance with the final chronic toxicity effluent limitation.

In determining compliance with the interim effluent limitation in section IV.A.2.a (**effective immediately through 31 May 2028**), where the median chronic toxicity units exceed **16 TUc** (as 100/NOEC) for any endpoint, the Discharger will be deemed out of compliance with the interim chronic toxicity effluent limitation if the

median chronic toxicity units for any endpoint also exceed a reporting level of 16 TUc (as 100/EC25) AND the percent effect at 6.25 percent effluent for the same endpoint also exceeds 25 percent. The percent effect used to evaluate compliance with the interim chronic toxicity effluent limitation shall be based on the chronic toxicity bioassay result(s) from the sample(s) used to establish the median TUc result, as described above. If the median TUc is based on two equal chronic toxicity bioassay results, the percent effect of the sample with the greatest percent effect shall be used to evaluate compliance with the interim chronic toxicity effluent limitation.

G. Chlorpyrifos and Diazinon Effluent Limitations (Section IV.A.1.h) Compliance shall be determined by calculating the sum (S), as provided in this Order, with analytical results that are reported as ND concentrations to be considered to be zero.

ATTACHMENT A – DEFINITIONS

1Q10
The lowest one-day flow with an average reoccurrence frequency of once in ten years.

7Q10
The lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$

where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
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.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), 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 1 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.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effect Concentration (EC)
A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). EC_{25} is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Endpoint
An effect that is measured in a toxicity study. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inhibition Concentration
Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g., reproduction or growth), calculated from a continuous model (i.e., Interpolation Method). IC25 is a point estimate of the toxic concentration that would cause a 25-percent reduction in a non-lethal biological measurement.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum measured concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in in 40 C.F.R. Part 136, Attachment B.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

No-Observed-Effect-Concentration (NOEC)
The highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Percent Effect
The percent effect at the instream waste concentration (IWC) shall be calculated using untransformed data and the following equation:

$$\text{Percent Effect of the Sample} = \frac{\text{Mean Control Response} - \text{Mean Sample Response}}{\text{Mean Control Response}} \cdot 100$$

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and

implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum [(x - \mu)^2] / (n - 1))^{0.5}$$

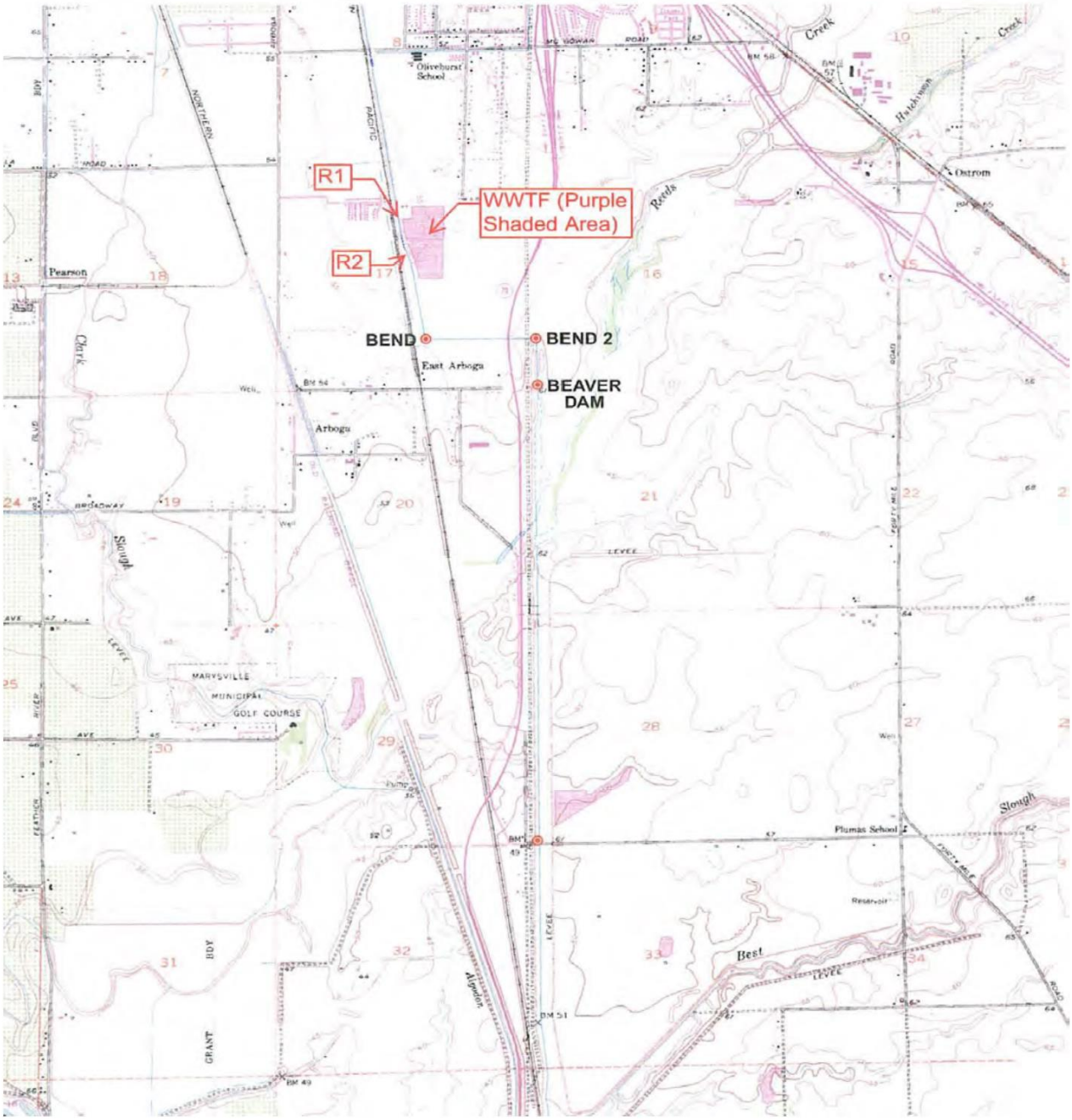
where:

x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Statistical Threshold Value (STV): The STV for the bacteria receiving water limitation is a set value that approximates the 90th percentile of the water quality distribution of a bacterial population. **[Only include when Statewide Bacteria Objectives implemented]**

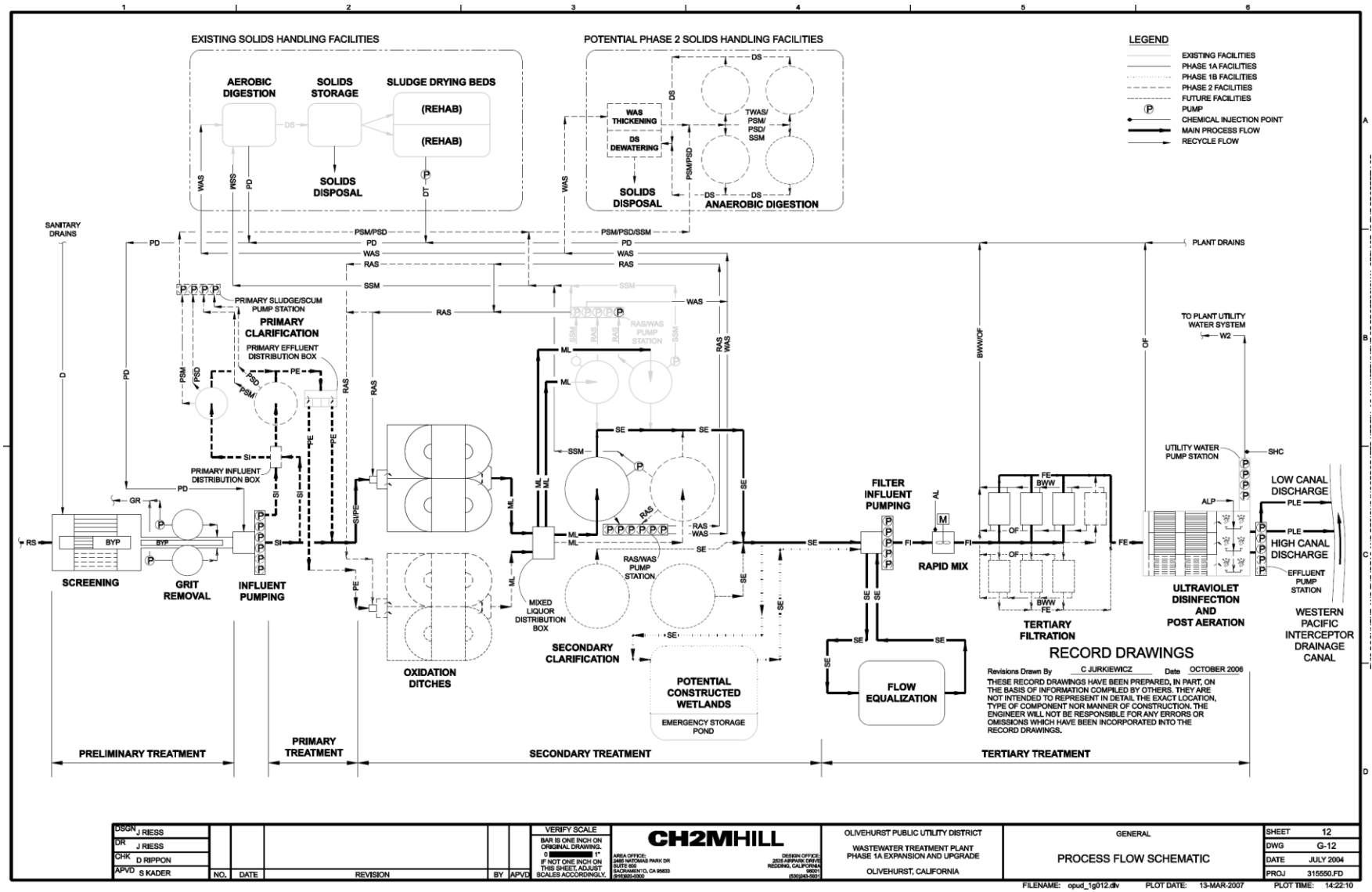
Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a stepwise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP



	SITE LOCATION MAP **OLIVEHURST PUBLIC UTILITY DISTIRCT** **WASTEWATER TREATMENT FACILITY** **YUBA COUNTY**	N W E S

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply:

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. section 122.41(a); Wat. Code, sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. section 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. section 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes having adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. section 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. section 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. section 1318(a)(4)(B); 40 C.F.R. section 122.41(i); Wat. Code, section 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(1); Wat. Code, sections 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(2); Wat. Code, sections 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(3); Wat. Code, section 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C section 1318(a)(4)(B); 40 C.F.R. section 122.41(i)(4); Wat. Code, sections 13267, 13383.)

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. section 122.41(m)(1)(i).)
   b. “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 that 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. (40 C.F.R. section 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. section 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. section 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. section 122.41(m)(4)(i)(A));

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated 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 that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. section 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. section 122.41(m)(4)(i)(C).)

4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. section 122.41(m)(4)(ii).)

5. Notice

a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit prior notice if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(i))

b. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(ii))

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. section 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations

if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. section 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, thorough properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. section 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. section 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. section 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. section 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. section 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. section 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. section 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. section 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. section 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when the method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter, or when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and:

   a. The method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter, or;

   b. The method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge;

   In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. Part 136 or otherwise required under 40 C.F.R. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. sections 122.21(e)(3), 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. section 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. section 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. section 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. section 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. section 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. section 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. section 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. section 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. section 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. section 122.41(h); Wat. Code, sections 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. section 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. section 122.22(a)(3).).
3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. section 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. section 122.22(b)(2)); and

c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. section 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. section 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "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." (40 C.F.R. section 122.22(d).)

6. Any person providing the electronic signature for such documents described in Standard Provision – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R section 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. section 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal

practices. As of 21 December 2016, all reports and forms must be submitted electronically to the initial recipient, defined in Standard Provisions – Reporting V.J, and comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. section 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Valley Water Board. (40 C.F.R. section 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. section 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. section 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance 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 noncompliance.

   For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather.

   As of 21 December 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient (State Water Board) defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3. They may also require the Discharger to electronically submit reports not related to combined

sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. section 122.41(l)(6)(i).)

F. Planned Changes

The Discharger shall give notice to the Central Valley Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. section 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. section 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order’s requirements. (40 C.F.R. section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Central Valley Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board**,** State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. section 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTW's)

All POTW's shall provide adequate notice to the Central Valley Water Board of the following (40 C.F.R. section 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. section 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. section 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. section 122.42(b)(3).).

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. section 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.

B. Final effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory accredited for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health), in accordance with the provision of Water Code section 13176. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event an accredited laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, and temperature, such analyses performed by a non-accredited laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, and temperature, must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. Laboratory analytical methods shall be sufficiently sensitive in accordance with the Sufficiently Sensitive Methods Rule (SSM Rule) specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). A U.S. EPA-approved analytical method is sufficiently sensitive for a pollutant/parameter where:

1. The method minimum level (ML) is at or below the applicable water quality objective for the receiving water, or;
2. The method ML is above the applicable water quality objective for the receiving water but the amount of the pollutant/parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant/parameter, or;
3. the method ML is above the applicable water quality objective for the receiving water, but the ML is the lowest of the 40 C.F.R. 136 U.S. EPA-approved analytical methods for the pollutant/parameter.

G. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board at the following address:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814

H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

I. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Location where a representative sample of the facility's influent can be obtained, prior to any additives, treatment processes, and plant return flows. (39º 04' 02.3" N, 121º 33' 06.0" W)

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Location where a representative sample of the facility's effluent can be obtained prior to discharge into the Western Pacific Interceptor Canal (39º 03' 57.5" N, 121º 33' 08.5" W)
--	RSW-001	100 feet Upstream of Discharge Point No. 001 from the Western Pacific Interceptor Canal (39º 03' 58.8" N, 121º 33' 08.8" W)
--	RSW-002	500 feet Downstream of Discharge Point No. 001 from the Western Pacific Interceptor Canal (39º 03' 53.4" N, 121º 33' 07.6" W)
--	UVS-001	A location where a representative sample of wastewater can be collected immediately downstream of the ultraviolet light (UV) disinfection system
--	FIL-001	Monitoring of the filter influent to be measured upstream of the filters prior to the ultraviolet light (UV) disinfection system.
--	FIL-002	Monitoring of the filter effluent to be measured downstream of the filters prior to the ultraviolet light (UV) disinfection system.
--	FEB-001	6-acre basin, south of the biological treatment works used to temporarily store secondary-treated wastewater flows in excess of tertiary filtration treatment capacity.

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at INF-001 in accordance with Table E-2 and the testing requirements described in section III.A.2 below:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Biochemical Oxygen Demand (5-day @ 20°Celcius)	mg/L	24-hour Composite	1/Week
Total Suspended Solids	mg/L	24-hour Composite	1/Week

2. **Table E-2 Testing Requirements**. The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-2:

a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

b. **24-hour composite samples** shall be collected from a 24-hour flow proportional composite.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor tertiary treated effluent at EFF-001 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Biochemical Oxygen Demand (BOD) 5-day @ 20°Celcius	mg/L	24-hour Composite	1/Week
BOD	% removal	Calculate	1/Month
Total Suspended Solids (TSS)	mg/L	24-hour Composite	1/Week
TSS	% removal	Calculate	1/Month
pH	standard units	Grab	1/Week
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Month
Nitrate plus Nitrite, Total (as N)	mg/L	Calculate	1/Month
Copper, total recoverable	µg/L	Grab	1/Quarter
Chlorpyrifos	µg/L	Grab	1/Year
Diazinon	µg/L	Grab	1/Year
Electrical Conductivity @ 25°Celcius	µmhos/cm	24-hour Composite	1/Month
Hardness, Total (as $CaCO_3$)	mg/L	24-hour Composite	1/Quarter
Dissolved Organic Carbon	mg/L	24-hour Composite	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Month
Temperature	°C	Grab	1/Week

2. **Table E-3 Testing Requirements**. The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-3:

a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

b. **24-hour composite samples** shall be collected from a 24-hour flow proportional composite.

c. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

d. **Field Meter.** A hand-held field meter may be used for **pH, electrical conductivity, dissolved oxygen, and temperature**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

e. **Temperature** and **pH** shall be recorded at the time of **ammonia** sample collection.

f. **Whole Effluent Toxicity.** Ammonia samples shall be collected concurrently with whole effluent toxicity monitoring.

g. **Hardness** samples shall be collected concurrently with metals samples.

h. **Dissolved Organic Carbon.** Hardness, total (as $CaCO_3$) and pH samples shall be taken concurrent with dissolved organic carbon samples.

i. **Chlorpyrifos and Diazinon** shall be sampled using U.S. EPA Method 625M, Method 8141, or equivalent GC/MS method with a lower Reporting Limit than the Basin Plan Water Quality Objectives of 0.015 µg/L and 0.1 µg/L for chlorpyrifos and diazinon, respectively.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the acute toxicity testing requirement:

1. **Monitoring Frequency** – The Discharger shall perform **annual** acute toxicity testing, concurrent with effluent ammonia sampling.

2. **Sample Types** – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001.

3. **Test Species** – Test species shall be **fathead minnows** (*Pimephales promelas*).

4. **Methods** – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature and pH shall be recorded at the time of

sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. **Test Failure** – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall meet the chronic toxicity testing requirements:

1. **Monitoring Frequency** – The Discharger shall perform routine **quarterly** chronic toxicity testing. If the result of the routine chronic toxicity testing event exhibits toxicity, demonstrated by a result greater than 1.3 TUc (as 100/NOEC) AND a percent effect greater than 25 percent at 100 percent effluent, the Discharger has the option of conducting two additional compliance monitoring events and perform chronic toxicity testing using the species that exhibited toxicity in order to calculate a median. The optional compliance monitoring events shall occur at least one week apart, and the final monitoring event shall be initiated no later than 6 weeks from the routine monitoring event that exhibited toxicity. See Compliance Determination section VII.F for procedures for calculating 6-week median.
2. **Sample Types** – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001. The receiving water control shall be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.
3. **Sample Volumes** – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
4. **Test Species** – The testing shall be conducted using the most sensitive species. The Discharger shall conduct chronic toxicity tests with ***Ceriodaphnia dubia***, unless otherwise specified in writing by the Executive Officer.
5. **Methods** – The presence of chronic toxicity shall be estimated as specified in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002.
6. **Reference Toxicant** – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.
7. **Dilutions** – For routine and compliance chronic toxicity monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	100% Dilution	75% Dilution	50% Dilution	25% Dilution	12.5% Dilution	6.25% Dilution	Control
% Effluent	100%	75%	50%	25%	12.5%	6.25%	0%
% Control Water	0%	25%	50%	75%	87.5%	93.75%	100%

8. **Test Failure** – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in the Method Manual.

C. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the chronic toxicity effluent limitation, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. *Chronic WET Reporting.* Routing and compliance chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the quarterly self-monitoring report, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate;

   b. The percent effect at the instream waste concentration;

   c. The statistical methods used to calculate endpoints;

   d. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   e. The dates of sample collection and initiation of each toxicity test; and

   f. The results compared to the numeric toxicity monitoring trigger.

   Additionally, the quarterly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring type, i.e., routine, compliance, TES, or TRE monitoring.

2. *Acute WET Reporting.* Acute toxicity test results shall be submitted with the quarterly discharger self-monitoring reports and reported as percent survival.
3. *TRE Reporting.* Reports for TREs shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan, or as amended by the Discharger's TRE Action Plan.
4. *Quality Assurance (QA).* The Discharger must provide the following information for QA purposes:
   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.
   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
   c. Any information on deviations or problems encountered and how they were dealt with.

E. Most Sensitive Species Screening. The Discharger shall perform rescreening to re-evaluate the most sensitive species if there is a significant change in the nature of the discharge. If there are no significant changes during the permit term, a rescreening must be performed prior to permit reissuance and results submitted with the Report of Waste Discharge.

1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed using 100 percent effluent and one control. If the first two species sensitivity re-screening events result in no change in the most sensitive species, the Discharger may cease the species sensitive re-screening testing and the most sensitive species will remain unchanged.
2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing exceeds 1 TUc (as 100/NOEC), then the species used in that test shall be established as the most sensitive species. If there is more than a single test that exceeds 1 TUc (as 100/NOEC), then of the species exceeding 1 TUc (as 100/NOEC) that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening exceeds 1 TUc (as 100/NOEC), but at least one of the species exhibits a percent effect greater than 25 percent, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001 and RSW-002

1. The Discharger shall monitor the Western Pacific Interceptor Canal at RSW-001 and RSW-002 in accordance with Table E-5 and the testing requirements described in section VIII.A.2 below:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Monitoring Location(s)
Dissolved Oxygen	mg/L	Grab	1/Month	RSW-001, RSW-002
pH	SU	Grab	1/Week	RSW-001, RSW-002
Temperature	°F (°C)	Grab	1/Week	RSW-002
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	RSW-001, RSW-002
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter	RSW-001, RSW-002
Dissolved Organic Carbon (DOC)	mg/L	Grab	1/Quarter	RSW-001, RSW-002

2. **Table E-5 Testing Requirements**. The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-5:

   a. **Applicable to All Parameters.** Monitoring must be concurrent with the effluent discharge.

   b. **Applicable to All Parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR Part 136; where no methods are specified for a given pollutant, by methods approved by the Regional Water Board or the State Water Board.

   c. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device. Grab samples shall not be collected at the same time each day.

   d. **Field Meter.** A hand-held field meter may be used for **dissolved oxygen, pH, electrical conductivity, and temperature**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to the Western Pacific Interceptor Canal. Attention shall be given to the presence of:

   a. Floating or suspended matter;

   b. Discoloration;

   c. Bottom deposits;

   d. Aquatic life;

   e. Visible films, sheens, or coatings;

   f. Fungi, slimes, or objectionable growths; and

   g. Potential nuisance conditions.

   Notes on receiving water conditions shall be summarized in the monitoring report.

IX. OTHER MONITORING REQUIREMENTS

A. Filtration System and Ultraviolet Light (UV) Disinfection System

1. **Monitoring Locations FIL-001, FIL-002, and UVS-001.** The Discharger shall monitor the filtration system at Monitoring Locations FIL-001 and FIL-002 and the UV disinfection system at Monitoring Locations UVS-001 in accordance with Table E-6 and the testing requirements described in section IX.A.2 below:

Table E-6. Filtration System and UV Disinfection System Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Flow	MGD	Meter	FIL-001	Continuous
Turbidity	NTU	Meter	FIL-002	Continuous
UV Transmittance	Percent (%)	Meter	FIL-002	Continuous
UV Dose	(mJ/cm 2)	Calculated	See Testing Requirements subsection d	Continuous
Total Coliform Organisms	MPN/100mL	Grab	UVS-001	2/Week

2. **Table E-6 Testing Requirements**. The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-6:

   a. **Applicable to all parameters**. Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if

requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

b. **Continuous analyzers**. The Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation. If analyzer(s) fail to provide continuous monitoring for more than two hours and influent and/or effluent from the disinfection process is not diverted for retreatment, the Discharger shall obtain and report hourly manual and/or grab sample results.

c. **Turbidity.** Report daily average and maximum turbidity.

d. **UV Dose**. Report daily minimum hourly average UV dose and daily average UV dose. The minimum hourly average dose shall consist of lowest hourly average dose provided in any channel that had at least one bank of lamps operating during the hour interval. For channels that did not operate for the entire hour interval, the dose will be averaged based on the actual operation time.

e. **Total Coliform Organisms**. Samples for total coliform organisms may be collected at any point following disinfection.

B. Ponds

1. **Monitoring Location FEB-001.** The Discharger shall keep a log regarding the use of the 6-acre flow equalization basin. In particular, the Discharger shall record the following when secondary treated wastewater is directed to the basin.
   a. The date(s) when the secondary wastewater is directed to the basin;
   b. The total volume of secondary wastewater directed to the basin (volume may be estimated), and;
   c. The daily freeboard in the basin.
2. The Discharger shall monitor the 6-acre flow equalization basin at Monitoring Location FEB-001, per Table E-7, and Table E-7 notes, when the 6-acre flow equalization basin holds wastewater for over 7 consecutive days. When the 6-acre flow equalization basin holds wastewater for less than 7 consecutive days, monitoring shall not be required. If monitoring is not required, the Discharger shall so state in the Self-Monitoring Report (SMR).

Table E-7. Six-Acre Flow Equalization Basin Monitoring Requirements

Parameter	Units	Sample Type	Sampling Frequency
Dissolved Oxygen	mg/L	Grab	1/Week
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week
Odors	--	Grab	1/Day
pH	standard Units	Grab	1/Week
Freeboard	feet	--	1/Week
Levee Condition	--	--	1/Week

3. Table E-7 Testing Requirements. The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-7:

   a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

   b. **Grab sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

   c. **Field meter.** A hand-held field meter may be used for **pH, electrical conductivity, and dissolved oxygen,** provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

C. Pyrethroid Pesticides Monitoring

1. **Water Column Chemistry Monitoring Requirements**. The Discharger shall conduct effluent and receiving water (Western Pacific Interceptor Canal) baseline monitoring in accordance with Table E-8. Quarterly monitoring shall be conducted for **one year concurrent with the Effluent and Receiving Water Characterization Monitoring, see section IX.D of this MRP**. The discharger shall also submit a minimum of one quality assurance/quality control (QA/QC) sample during the year to be analyzed for the constituents listed in Table E-8.

   The monitoring shall be conducted in the effluent at monitoring location EFF-001 and downstream receiving water at monitoring location RSW-002 and the results of such monitoring be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. The Discharger shall use Environmental Laboratory Accreditation Program (ELAP)-accredited laboratories and methods for pyrethroid pesticides water column chemistry monitoring. ELAP-accredited methods are acceptable for pyrethroid chemical analysis provided that the method meets the analytical capability described in Table E-8. A current list of ELAP approved laboratories and points of contact can be found on the Central Valley Water Board's website, https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.html

   Monitoring can either be conducted by the Discharger or can be done as part of a group monitoring effort. If the Discharger chooses to participate in a group monitoring effort, the timing of the monitoring can be modified by the Executive Officer.

Table E-8. Pyrethroid Pesticides Monitoring

Parameter	CAS Number	Sample Units	Sample Type	Analytical Method	Reporting Level
Total Bifenthrin	82657-04-3	ng/L	Grab	To be determined (TBD)	1.3

Parameter	CAS Number	Sample Units	Sample Type	Analytical Method	Reporting Level
Total Cyfluthrin	68359-37-5	ng/L	Grab	TBD	1.3
Total Cypermethrin	52315-07-8	ng/L	Grab	TBD	1.7
Total Esfenvalerate	51630-58-1	ng/L	Grab	TBD	3.3
Total Lambda-cyhalothrin	91465-08-6	ng/L	Grab	TBD	1.2
Total Permethrin	52645-53-1	ng/L	Grab	TBD	10
Freely Dissolved Bifenthrin	82657-04-3	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Cyfluthrin	68359-37-5	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Cypermethrin	52315-07-8	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Esfenvalerate	51630-58-1	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Lambda-cyhalothrin	91465-08-6	ng/L	Calculated	Calculated from total concentration	--
Freely Dissolved Permethrin	52645-53-1	ng/L	Calculated	Calculated from total concentration	--
Dissolved Organic Carbon (DOC)	--	mg/L	Grab	--	--
Total Organic Carbon (TOC)	--	mg/L	Grab	--	--

The freely dissolved concentration of each quantified pyrethroid pesticide in a sample may be directly measured or estimated using partition coefficients. Methods for direct measurement must be approved by the Executive Officer before they are used to determine the freely dissolved pyrethroid concentrations that are used for determining exceedances of the pyrethroid pesticides numeric triggers.

To estimate the freely dissolved concentration of a pyrethroid pesticide with partition coefficients, the following equation shall be used:

$$C_{dissolved} = \frac{C_{total}}{1 + (K_{OC} \times [POC]) + (K_{DOC} \times [DOC])}$$

Where:

C dissolved = concentration of a an individual pyrethroid pesticide that is in the freely dissolved phase (ng/L),

C total = total concentration of an individual pyrethroid pesticide in water (ng/L),

KOC = organic carbon-water partition coefficient for the individual pyrethroid pesticide (L/kg),

[POC] = concentration of particulate organic carbon in the water sample (kg/L), which can be calculated as [POC]=[TOC]-[DOC],

[TOC] = total organic carbon in the sample (kg/L)

KDOC = dissolved organic carbon-water partition coefficient (L/kg),

[DOC] = concentration of dissolved organic carbon in the sample (kg/L).

Site-specific or alternative study-based partition coefficients approved by the Executive Officer may be used for KOC and KDOC in the above equation. If site-specific or alternative study-based partition coefficients are not available or have not been approved, the following partition coefficients shall be used for KOC and KDOC in the above equation:

Table E-9. Pyrethroid Pesticide Partition Coefficients

Pyrethroid Pesticide	Receiving water KOC (L/kg)	Receiving water KDOC (L/kg)	Effluent KOC (L/kg)	Effluent KDOC (L/kg)
Bifenthrin	4,228,000	1,737,127	15,848,932	800,000
Cyfluthrin	3,870,000	2,432,071	3,870,000	2,432,071
Cypermethrin	3,105,000	762,765	6,309,573	200,000
Esfenvalerate	7,220,000	1,733,158	7,220,000	1,733,158
Lambda-cyhalothrin	2,056,000	952,809	7,126,428	200,000
Permethrin	6,074,000	957,703	10,000,000	200,000

2. **Water Column Toxicity Monitoring Requirements**. When discharging to the Western Pacific Interceptor Canal, the Discharger shall monitor the toxicity of the downstream receiving water using EPA method EPA-821-R-02-012 (Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, USEPA, October 2002, or most recent edition) Except as specified in this order, water column toxicity testing shall follow the measurement quality objectives provided in the Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Program Plan (SWRCB, 2018). When feasible, the Discharger shall use the Southern California Coastal Water Research Project (SCCWRP) guidance (Schiff and Greenstein, 2016) on test organism age and size for *Hyalella azteca*.

   For consistency with EPA Method EPA-821-R-02-012 and ELAP accreditation, *Hyalella Azteca* water column toxicity testing for baseline monitoring must be performed at 20 degrees Celsius.

   Quarterly monitoring shall be conducted for **one year concurrent with the Pyrethroid Pesticides Water Column Chemistry Monitoring during Effluent and Receiving Water Characterization Monitoring**. Downstream receiving water monitoring shall be conducted at monitoring location RSW-002 when discharging to the Western Pacific Interceptor Canal and the results of such monitoring be submitted to the Central Valley Water Board with the quarterly self-

monitoring reports. Monitoring can either be conducted by the Discharger or can be done as part of a group monitoring effort. If the Discharger chooses to participate in a group monitoring effort, the timing of the monitoring can be modified by the Executive Officer.

D. Effluent and Receiving Water Characterization

1. **Monitoring Frequency**

   a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) **quarterly** between **1 July 2022 and 30 June 2023**.

   b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water (Monitoring Location RSW-001) **once** between **1 July 2022 and 30 June 2023.**

      Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.D.2) using sufficiently sensitive analytical methods and Reporting Levels per the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). The "Reporting Level" is synonymous with the "Method Minimum Level" described in the SSM Rule. The results of the monitoring shall be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

2. **Analytical Methods Report Certification**. Prior to beginning the Effluent and Receiving Water Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent and Receiving Water Characterization monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the permit's Notice of Adoption that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table.

3. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-10 and the testing requirements described in section IX.D.4 below.

Table E-10. Effluent and Receiving Water Characterization Monitoring

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Grab	Volatile Organic
17	Acrolein	107-02-8	µg/L	Grab	Volatile Organic
18	Acrylonitrile	107-13-1	µg/L	Grab	Volatile Organic
19	Benzene	71-43-2	µg/L	Grab	Volatile Organic

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
20	Bromoform	75-25-2	µg/L	Grab	Volatile Organic
21	Carbon Tetrachloride	56-23-5	µg/L	Grab	Volatile Organic
22	Chlorobenzene	108-90-7	µg/L	Grab	Volatile Organic
24	Chloroethane	75-00-3	µg/L	Grab	Volatile Organic
26	Chloroform	67-66-3	µg/L	Grab	Volatile Organic
35	Methyl Chloride	74-87-3	µg/L	Grab	Volatile Organic
23	Dibromochloromethane	124-48-1	µg/L	Grab	Volatile Organic
27	Dichlorobromomethane	75-27-4	µg/L	Grab	Volatile Organic
36	Methylene Chloride	75-09-2	µg/L	Grab	Volatile Organic
33	Ethylbenzene	100-41-4	µg/L	Grab	Volatile Organic
89	Hexachlorobutadiene	87-68-3	µg/L	Grab	Volatile Organic
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Grab	Volatile Organic
94	Naphthalene	91-20-3	µg/L	Grab	Volatile Organic
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Grab	Volatile Organic
39	Toluene	108-88-3	µg/L	Grab	Volatile Organic
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Grab	Volatile Organic
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab	Volatile Organic
44	Vinyl Chloride	75-01-4	µg/L	Grab	Volatile Organic
21	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab	Volatile Organic
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab	Volatile Organic
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab	Volatile Organic
28	1,1-Dichloroethane	75-34-3	µg/L	Grab	Volatile Organic
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab	Volatile Organic
31	1,2-Dichloropropane	78-87-5	µg/L	Grab	Volatile Organic
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab	Volatile Organic
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab	Volatile Organic
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab	Volatile Organic
29	1,2-Dichloroethane	107-06-2	µg/L	Grab	Volatile Organic
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab	Volatile Organic
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab	Volatile Organic
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab	Volatile Organic

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab	Semi-Organic Volatile
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab	Semi-Organic Volatile
45	2-Chlorophenol	95-57-8	µg/L	Grab	Semi-Organic Volatile
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab	Semi-Organic Volatile
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab	Semi-Organic Volatile
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab	Semi-Organic Volatile
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab	Semi-Organic Volatile
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab	Semi-Organic Volatile
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab	Semi-Organic Volatile
50	2-Nitrophenol	88-75-5	µg/L	Grab	Semi-Organic Volatile
71	2-Chloronaphthalene	91-58-7	µg/L	Grab	Semi-Organic Volatile
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab	Semi-Organic Volatile
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab	Semi-Organic Volatile
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab	Semi-Organic Volatile
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab	Semi-Organic Volatile
51	4-Nitrophenol	100-02-7	µg/L	Grab	Semi-Organic Volatile
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab	Semi-Organic Volatile
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab	Semi-Organic Volatile
56	Acenaphthene	83-32-9	µg/L	Grab	Semi-Organic Volatile
57	Acenaphthylene	208-96-8	µg/L	Grab	Semi-Organic Volatile
58	Anthracene	120-12-7	µg/L	Grab	Semi-Organic Volatile

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
59	Benzidine	92-87-5	µg/L	Grab	Semi-Organic Volatile
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab	Semi-Organic Volatile
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab	Semi-Organic Volatile
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Grab	Semi-Organic Volatile
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Grab	Semi-Organic Volatile
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Grab	Semi-Organic Volatile
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Grab	Semi-Organic Volatile
68	Bis(2-Ethylhexyl) Phthalate	117-81-7	µg/L	Grab	Semi-Organic Volatile
70	Butylbenzyl Phthalate	85-68-7	µg/L	Grab	Semi-Organic Volatile
73	Chrysene	218-01-9	µg/L	Grab	Semi-Organic Volatile
81	Di-n-butyl Phthalate	84-74-2	µg/L	Grab	Semi-Organic Volatile
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Grab	Semi-Organic Volatile
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Grab	Semi-Organic Volatile
79	Diethyl Phthalate	84-66-2	µg/L	Grab	Semi-Organic Volatile
80	Dimethyl Phthalate	131-11-3	µg/L	Grab	Semi-Organic Volatile
86	Fluoranthene	206-44-0	µg/L	Grab	Semi-Organic Volatile
87	Fluorene	86-73-7	µg/L	Grab	Semi-Organic Volatile
88	Hexachlorobenzene	118-74-1	µg/L	Grab	Semi-Organic Volatile
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Grab	Semi-Organic Volatile
91	Hexachloroethane	67-72-1	µg/L	Grab	Semi-Organic Volatile
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Grab	Semi-Organic Volatile

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
93	Isophorone	78-59-1	µg/L	Grab	Semi-Organic Volatile
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Grab	Semi-Organic Volatile
96	N-Nitrosodimethylamine	62-75-9	µg/L	Grab	Semi-Organic Volatile
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Grab	Semi-Organic Volatile
95	Nitrobenzene	98-95-3	µg/L	Grab	Semi-Organic Volatile
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Grab	Semi-Organic Volatile
99	Phenanthrene	85-01-8	µg/L	Grab	Semi-Organic Volatile
54	Phenol	108-95-2	µg/L	Grab	Semi-Organic Volatile
100	Pyrene	129-00-0	µg/L	Grab	Semi-Organic Volatile
NL	Aluminum	7429-90-5	µg/L	24-hour Composite	Inorganic
1	Antimony, Total Recoverable	7440-36-0	µg/L	24-hour Composite	Inorganic
2	Arsenic, Total Recoverable	7440-38-2	µg/L	24-hour Composite	Inorganic
15	Asbestos	1332-21-4	µg/L	24-hour Composite	Inorganic
3	Beryllium, Total Recoverable	7440-41-7	µg/L	24-hour Composite	Inorganic
4	Cadmium, Total Recoverable	7440-43-9	µg/L	24-hour Composite	Inorganic
5a (III)	Chromium, Total	7440-47-3	µg/L	24-hour Composite	Inorganic
6	Copper, Total Recoverable	7440-50-8	µg/L	24-hour Composite	Inorganic
14	Iron, Total Recoverable	7439-89-6	µg/L	24-hour Composite	Inorganic
7	Lead, Total Recoverable	7439-92-1	µg/L	24-hour Composite	Inorganic
8	Mercury, Total Recoverable	7439-97-6	µg/L	Grab	Inorganic
NL	Mercury, Methyl	22967-92-6	µg/L	Grab	Inorganic
NL	Manganese, Total Recoverable	7439-96-5	µg/L	24-hour Composite	Inorganic

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
9	Nickel, Total Recoverable	7440-02-0	µg/L	24-hour Composite	Inorganic
10	Selenium, Total Recoverable	7782-49-2	µg/L	24-hour Composite	Inorganic
11	Silver, Total Recoverable	7440-22-4	µg/L	24-hour Composite	Inorganic
12	Thallium, Total Recoverable	7440-28-0	µg/L	24-hour Composite	Inorganic
13	Zinc, Total Recoverable	7440-66-6	µg/L	24-hour Composite	Inorganic
NL	Boron	7440-42-8	µg/L	24-hour Composite	Non-Metal/Mineral
NL	Chloride	16887-00-6	mg/L	24-hour Composite	Non-Metal/Mineral
14	Cyanide, Total (as CN)	57-12-5	µg/L	Grab	Non-Metal/Mineral
NL	Phosphorus, Total (as P)	7723-14-0	mg/L	24-hour Composite	Non-Metal/Mineral
NL	Sulfate	14808-79-8	mg/L	24-hour Composite	Non-Metal/Mineral
NL	Sulfide (as S)	5651-88-7	mg/L	24-hour Composite	Non-Metal/Mineral
110	4,4-DDD	72-54-8	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
109	4,4-DDE	72-55-9	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
108	4,4-DDT	50-29-3	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
112	alpha-Endosulfan	959-98-8	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
102	Aldrin	309-00-2	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
113	beta-Endosulfan	33213-65-9	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
107	Chlordane	57-74-9	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
111	Dieldrin	60-57-1	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
114	Endosulfan Sulfate	1031-07-8	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
115	Endrin	72-20-8	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
116	Endrin Aldehyde	7421-93-4	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
117	Heptachlor	76-44-8	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
118	Heptachlor Epoxide	1024-57-3	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
120	PCB 1221	11104-28-2	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
121	PCB 1232	11141-16-5	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
122	PCB 1242	53469-21-9	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
123	PCB 1248	12672-29-6	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
124	PCB 1254	11097-69-1	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
125	PCB 1260	11096-82-5	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
126	Toxaphene	8001-35-2	µg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	24-hour Composite	Pesticide/ PCB/ Dioxin
NL	pH	--	SU	Grab	Conventional
NL	Temperature	--	ºC	Grab	Conventional
NL	Foaming Agents (MBAS)	MBAS	mg/L	24-hour Composite	Non-Conventional
NL	Hardness (as $CaCO_3$)	471-34-1	mg/L	Grab	Non-Conventional
NL	(Electrical Conductivity or EC)	EC	µmhos /cm	24-hour Composite	Non-Conventional
NL	Total Dissolved Solids (TDS)	TDS	mg/L	24-hour Composite	Non-Conventional

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
NL	Dissolved Organic Carbon (DOC)	DOC	mg/L	24-hour Composite	Non-Conventional
7	Ammonia (as N)	7664-41-7	mg/L	24-hour Composite	Nutrient
8	Nitrate (as N)	14797-55-8	mg/L	24-hour Composite	Nutrient
9	Nitrite (as N)	14797-65-0	mg/L	24-hour Composite	Nutrient
NL	1,2,3-Trichloropropane (TCP)	96-18-4	ug/L	Grab	Other Constituent of Concern (COC)
NL	Trichlorofluoromethane	75-69-4	µg/L	Grab	Other COC
NL	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Grab	Other COC
NL	Styrene	100-42-5	µg/L	Grab	Other COC
NL	Xylenes	1330-20-7	µg/L	Grab	Other COC
NL	Barium	7440-39-3	µg/L	24-hour Composite	Other COC
NL	Fluoride	16984-48-8	mg/L	24-hour Composite	Other COC
NL	Molybdenum	7439-98-7	µg/L	24-hour Composite	Other COC
NL	Tributyltin	688-73-3	µg/L	24-hour Composite	Other COC
NL	Alachlor	15972-60-8	µg/L	24-hour Composite	Other COC
NL	Atrazine	1912-24-9	µg/L	24-hour Composite	Other COC
NL	Bentazon	25057-89-0	µg/L	24-hour Composite	Other COC
NL	Carbofuran	1563-66-2	µg/L	24-hour Composite	Other COC
NL	2,4-D	94-75-7	µg/L	24-hour Composite	Other COC
NL	Dalapon	75-99-0	µg/L	24-hour Composite	Other COC
NL	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	24-hour Composite	Other COC
NL	Di(2-ethylhexyl)adipate	103-23-1	µg/L	24-hour Composite	Other COC
NL	Dinoseb	88-85-7	µg/L	24-hour Composite	Other COC

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
NL	Diquat	85-00-7	µg/L	24-hour Composite	Other COC
NL	Endothal	145-73-3	µg/L	24-hour Composite	Other COC
NL	Ethylene Dibromide (EDB)	106-93-4	µg/L	24-hour Composite	Other COC
NL	Methoxychlor	72-43-5	µg/L	24-hour Composite	Other COC
NL	Molinate (Ordram)	2212-67-1	µg/L	24-hour Composite	Other COC
NL	Oxamyl	23135-22-0	µg/L	24-hour Composite	Other COC
NL	Picloram	2/1/1918	µg/L	24-hour Composite	Other COC
NL	Simazine (Princep)	122-34-9	µg/L	24-hour Composite	Other COC
NL	Thiobencarb	28249-77-6	µg/L	24-hour Composite	Other COC
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	24-hour Composite	Other COC
NL	Chlorpyrifos	2921-88-2	µg/L	24-hour Composite	Other COC
NL	Diazinon	333-41-5	µg/L	24-hour Composite	Other COC

4. Table E-10 Testing Requirements. The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-10:

   a. **Applicable to All Parameters.** Parameters shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

   b. **Grab Samples.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

   c. **24-hour Composite Samples**. All 24-hour composite samples shall be collected from a 24-hour flow proportional composite.

   d. **Redundant Sampling.** The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-3, except for hardness, pH, and temperature.

   e. **Concurrent Sampling**. Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

f. **Sample Type**. All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in Table E-10.

g. **Bis (2-ethylhexyl) phthalate**. In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules**. For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Monthly SMRs are required even if there is no discharge. If no discharge occurs during the month, the monitoring report must be submitted stating that there has been no discharge.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory's Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Multiple Sample Data**. When determining compliance with an AMEL or AWEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. **The Discharger shall submit SMRs** in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. The Discharger shall attach all final laboratory reports from all contracted commercial laboratories, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.

7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:

a. **Calendar Annual Average Limitations**. For constituents with effluent limitations specified as "calendar annual average" (electrical conductivity) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

b. **Removal Efficiency (BOD_5 and TSS).** The Discharger shall calculate and report the percent removal of BOD_5 and TSS in the SMRs. The percent removal shall be calculated as specified in section VII.A of the Limitations and Discharge Requirements.

c. **Total Coliform Organisms Effluent Limitations**. The Discharger shall calculate and report the 7-day median of total coliform organisms for the effluent. The 7-day median of total coliform organisms shall be calculated as specified in section VII.C of the Waste Discharge Requirements.

d. **Dissolved Oxygen Receiving Water Limitations**. The Discharger shall report monthly in the self-monitoring report the dissolved oxygen concentrations in the effluent (EFF-001) and the receiving water (RSW-001 and RSW-002).

e. **Turbidity Receiving Water Limitations**. The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in section V.A.15.a-e of the Waste Discharge Requirements.

C. Discharge Monitoring Reports (DMR's)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMR's together with SMR's using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal will be in addition to electronic SMR submittal. Information about electronic DMR submittal (http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/) is available on the Internet.

D. Other Reports

1. **Analytical Methods Report**. The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The "Reporting Level or RL" is synonymous with the "Method Minimum Level" described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule. Central Valley Water Board staff will provide a tool with the permit's Notice of Adoption to assist the Discharger in completing this requirement. The tool will

include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.

2. **Annual Operations Report**. The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table:

   a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

   b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

   c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

   d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

   e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

3. **Recycled Water Policy Annual Reports.** In accordance with Section 3 of the Water Quality Control Policy for Recycled Water (Recycled Water Policy) and as specified in this Order, the Discharger shall electronically submit an annual report of monthly data to the State Water Board by 30 April annually covering the previous calendar year using the State Water Board's GeoTracker website (https://geotracker.waterboards.ca.gov/). Information for setting up and using the GeoTracker system can be found in the ESI Guide for Responsible Parties document on the State Water Board's website for Electronic Submittal of Information (https://www.waterboards.ca.gov/ust/electronic_submittal/index.html)

   The annual report to GeoTracker must include volumetric reporting of the items listed in Section 3.2 of the Recycled Water Policy (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf). A PDF of the upload confirmation from GeoTracker for the Recycled Water Policy Annual Report shall be uploaded into CIWQS to demonstrate compliance with this reporting requirement.

4. **Report of Waste Discharge (ROWD).** For the 5-year permit renewal, the Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table:

   a. Report of Waste Discharge (Form 200);

b. NPDES Form 1;

c. NPDES Form 2A;

d. NPDES Form 2S; and

e. **Salinity Evaluation and Minimization Plan.** The Discharger shall evaluate the effectiveness of the salinity evaluation and minimization plan and provide a summary with the Report of Waste Discharge.

5. **Technical Report Submittals**. This Order includes requirements to submit a Report of Waste Discharge (ROWD), special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as "technical reports"). The Technical Reports Table and subsequent table notes below summarize all technical reports required by this Order and the due dates for submittal. All technical reports shall be submitted electronically via CIWQS submittal. Technical reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment.

Table E-12. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
1	Report of Waste Discharge	31 May 2025	MRP X.D.4
2	Analytical Methods Report	1 August 2021	MRP X.D.1
3	Analytical Methods Report Certification	1 April 2022	MRP IX.D.2
4	Annual Operations Report	1 February 2022	MRP X.D.2
5	Annual Operations Report	1 February 2023	MRP X.D.2
6	Annual Operations Report	1 February 2024	MRP X.D.2
7	Annual Operations Report	1 February 2025	MRP X.D.2
8	Annual Operations Report	1 February 2026	MRP X.D.2
9	Results of Most Sensitive Species Rescreening	31 May 2025	MRP V.E
10	**Submit Method of Compliance Workplan.** Submit workplan that ensures compliance with final effluent limitation for chronic toxicity by the final compliance date.	1 November 2021	WDR VI.C.7.a.i
11	**Final Compliance.** Submit report demonstrating compliance with the final effluent limitation for chronic toxicity.	31 May 2028	WDR VI.C.7.a.ii
12	**Annual Progress Report.** The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional	1 February 2022	WDR VI.C.7.a.iii

Report #	Technical Report	Due Date	CIWQS Report Name
	measures as necessary to achieve full compliance by the final compliance date.		
13	Annual Progress Report	1 February 2023	WDR VI.C.7.a.iii
14	Annual Progress Report	1 February 2024	WDR VI.C.7.a.iii
15	Annual Progress Report	1 February 2025	WDR VI.C.7.a.iii
16	Annual Progress Report	1 February 2026	WDR VI.C.7.a.iii
17	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2022	MRP X.D.3
18	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2023	MRP X.D.3
19	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2024	MRP X.D.3
20	Recycled Water Policy Annual Report Submittal Confirmation	30 April 20254	MRP X.D.3
21	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2026	MRP X.D.3

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings of the Central Valley Water Board supporting the issuance of this Order. This Fact Sheet discusses the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

Waste Discharge ID:	5A580102001
CIWQS Facility Place ID:	245949
Discharger:	Olivehurst Public Utility District
Name of Facility:	Wastewater Treatment Facility
Facility Address:	3908 Mary Avenue
Facility City, State Zip:	Olivehurst, CA 95961
Facility County:	Yuba
Facility Contact, Title and Phone Number:	Gregory P. Axline, Chief Plant Operator, (530) 743-0842
Authorized Person to Sign and Submit Reports:	Same as above
Mailing Address:	1970 9th Avenue, PO Box 670, Olivehurst, CA 95961
Billing Address:	Same as Mailing Address
Type of Facility:	Publicly owned treatment works (POTW)
Major or Minor Facility:	Major
Threat to Water Quality:	2
Complexity:	A
Pretreatment Program:	No
Recycling Requirements:	None
Facility Permitted Flow:	3.0 Million Gallons per Day (MGD)
Facility Design Flow:	3.0 MGD
Watershed:	Bear River
Receiving Water:	Western Pacific Interceptor Canal
Receiving Water Type:	Inland surface water

A. The Olivehurst Public Utility District (Discharger) is the owner and operator of the Wastewater Treatment Facility (Facility), a Publicly-Owned Treatment Works

(POTW). For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to the Western Pacific Interceptor Canal, a water of the United States, and a tributary to the Lower Bear River within the Bear River Watershed. The Discharger was previously regulated by Order R5-2016-0001 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0077836 adopted on 18 February 2016 and expired on 31 March 2021. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.

D. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDR's) and NPDES permit on 28 September 2020.

E. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. Under 40 C.F.R. section 122.6(d), States authorized to administer the NPDES program may administratively continue State-issued permits beyond their expiration dates until the effective date of the new permits, if State law allows it. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the community of Olivehurst and Plumas Lake and serves a population of approximately 10,000. The design daily average flow capacity of the Facility is 3.0 million gallons per day (MGD).

A. Description of Wastewater and Biosolids Treatment and Controls

The treatment system consists of screening, grit removal, two oxidation ditches, three secondary clarifiers, a concrete lined equalization basin, a 6-acre, clay-lined flow equalization basin used for temporarily holding secondary undisinfected wastewater when influent flows exceed the tertiary filtration design capacity during long-term storm events, tertiary filtration and ultraviolet disinfection to treat a design daily average flow of 3.0 mgd and design daily peak flow of 6.8 mgd. Sludge is treated in a sludge lagoon, dewatered in sludge drying beds, and hauled to a landfill for disposal.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 17, T14N, R4E, Mount Diablo Base and Meridian (MDB&M), as shown in Attachment B, a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point 001 to the Western Pacific Interceptor Canal, a water of the United States, and a tributary to the Lower Bear River within the Bear River Watershed at a point latitude 39°03'57.5"N and longitude 121°33'08.7"W.
3. The Western Pacific Interceptor Canal is a storm water transmission canal that flows mainly during and after rain events (ephemeral stream), absent the discharge from the Facility. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The Western Pacific Interceptor Canal mixes with Hutchinson Creek and Best Slough before meeting the Lower Bear River approximately 7 miles downstream of Discharge Point 001.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R5-2016-0001 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order R5-2016-0001 are as follows:

Table F-2. Historic Effluent Limitations

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
BOD 5-day @ 20°C	mg/L	AMEL 10 AWEL 15 MDEL 20	2.1	6.4	6.4
Total Suspended Solids	mg/L	AMEL 10 AWEL 15 MDEL 20	1.4	3.5	3.5
pH	standard units	Instantaneous Max 8.0 Instantaneous Min 6.5	--	--	6.7-7.8
Copper	µg/L	AMEL 9 AWEL 18	2.8	2.8	2.8
Total Coliform Organisms	MPN/ 100ml	7-day median 2.2; more than once in any 30-day period 23; at any time 240	--	--	7.8
EC	µmhos/cm	--	--	--	827

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Turbidity	NTU	Daily Average 22 More than 5 percent of the time within a 24-hour period 5 At any time 10	2.3	--	15
Ammonia, total (as Nitrogen)	mg/L	AMEL 1.4 AWEL 2.5	0.72	2.1	--
Nitrate plus Nitrite, (total as Nitrogen)	mg/L	AMEL 10 AWEL 16	4.0	--	--

D. Compliance Summary

On 30 September 2016, the Executive officer issued Administrative Civil Liability (ACL) Complaint R5-2016-0559 for Mandatory Minimum Penalties in the amount of $3,000 for violations of BOD_5, and total coliform organisms effluent limitations occurring between 1 January 2013 and 30 June 2016. The ACL Complaint was settled by payment.

E. Planned Changes

The Discharger is working on sanitary sewer overflow (SSO) prevention upgrades at the collection system at the Facility. At the collection system, the Discharger plans to upgrade an existing lift station, add a new lift station, and upsize existing mainline. At the Facility, the Discharger plans on installing a concrete-lined flow equalization basin and an additional secondary clarifier. The secondary clarifier is included as part of the second expansion (Phase 2), the flow equalization basin is not included in Phase 2. These improvements would not change the Facility's capacity, they would be intended to add storage capacity to the Facility and keep the main lines from backing up and causing SSOs. This upgrade is in its first stages of planning.

The Discharger also plans to install a new mainline to the Sport Center development for future development in that area. The project is in its first stages and will not begin for one to two years. The Discharger would consider upgrading the Facility to Phase 2 as development in this area increases.

Phase 2, originally planned for completion in late 2007, is in the engineering phase and construction may begin around the expiration of the Order. Construction is not expected to be completed by the time this Order expires. Phase 2 would increase the ADWF to 5.1 MGD and require the Discharger to implement a Pretreatment Program.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plans**. Requirements of this Order specifically implement the applicable Water Quality Control Plans.
   a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, May 2018 (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan.

      The Basin Plan at section 2.1 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan in Table 2-1, section 2, does not specifically identify beneficial uses for the Western Pacific Interceptor Canal, but does identify present and potential uses for the Lower Bear River, to which the Western Pacific Interceptor Canal, is tributary. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to the Western Pacific Interceptor Canal are as follows:

Table F-3 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Western Pacific Interceptor Canal	**Existing:** Municipal and domestic supply (MUN), Agricultural supply (AGR), Hydropower generation (POW), Water contact recreation (REC-1), Non-contact water recreation (REC-2), Warm freshwater habitat (WARM); Cold freshwater habitat (COLD), Wildlife habitat (WILD). **Potential:** Migration of aquatic organisms (MIGR), and Spawning, reproduction and/or early development of fish (SPWN).

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR)**. U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy**. On 2 March 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy**. Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") (State Anti-Degradation Policy). The State Anti-Degradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Anti-Degradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. The Board finds this order is consistent with the Federal and State Water Board antidegradation regulations and policy.

5. **Anti-Backsliding Requirements**. Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Domestic Water Quality**. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

7. **Endangered Species Act Requirements**. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **Emergency Planning and Community Right to Know Act**. Section 13263.6(a) of the Water Code, requires that "the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective".

   The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to Water Code section 13263.6(a).

   However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.

9. **Storm Water Requirements**. U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The State Water Resources Control Board Water Quality Order 2014-0057-DWQ, General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES General Permit No. CAS000001), does not require facilities to obtain coverage if discharges of storm water are regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board (Finding I.B.20). All storm water at the Facility is captured and directed to the Facility headworks for treatment and disposal under this Order. Therefore, coverage under the General Storm Water Permit is not required.

10. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems**. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on 2 May 2006. The State Water Board amended the MRP for the General Order through Order WQ 2013-0058-EXEC on 6 August 2013. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMP's) and report all sanitary sewer overflows (SSO's), among other requirements and prohibitions.

    The Discharger is subject to the requirements of, and must comply with, State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC and any subsequent order.

11. **Sewage Sludge and Biosolids**. This Order does not authorize any act that results in violation of requirements administered by U.S. EPA to implement 40 C.F.R. Part 503, Standards for the Use or Disposal of Sewage Sludge. These standards regulate the final use or disposal of sewage sludge that is generated during the treatment of domestic sewage in a municipal wastewater treatment facility. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. Part 503 that are under U.S. EPA's enforcement authority.

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 11 October 2011 U.S. EPA gave final approval to California's 2008-2010 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment." The listing for the Lower Bear River includes: chlorpyrifos, copper, mercury and diazinon.

2. **Total Maximum Daily Loads (TMDL's).** Table F-4, below, identifies the 303(d) listings and any applicable TMDLs. This permit includes WQBELs that are consistent with the assumptions and considerations of the applicable WLAs in the Chlorpyrifos and Diazinon TMDL. There are no 303(d) listing for the Western Pacific Interceptor Canal, but the Lower Bear River, to which the Western Pacific Interceptor Canal is tributary, is listed for the following:

Table F-4. 303 (d) List for Lower Bear River

Pollutant	Potential Sources	TMDL Status
Chlorpyrifos and Diazinon	Agriculture	2007
Copper	Unknown	2021 (proposed)
Mercury	Resource Extraction	2021 (proposed)

3. The 303(d) listings and TMDL's have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section IV.C.3 of this Fact Sheet.

E. Other Plans, Polices and Regulations

1. **Title 27**. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 et seq (Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

   a. The waste consists primarily of domestic sewage and treated effluent;
   b. The waste discharge requirements are consistent with water quality objectives; and
   c. The treatment and storage facilities, including the recently completed 6-acre, clay lined flow equalization basin, described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., section 1311(b)(1)(C); 40 C.F.R. section 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality." Federal regulations, 40 C.F.R. section 122.44(d)(1)(vi), further provide that "[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits."

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States.

The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBEL's to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page 4-27, contains an implementation policy, "Policy for Application of Water Quality Objectives", that specifies that the Central Valley Water Board "will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives." This Policy complies with 40 C.F.R. section 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) U.S. EPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. section 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at section 3.1.20) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents' objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective states: "Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.
2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at CFR section122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define "bypass" as the intentional diversion of waste streams from any portion of a

treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

3. **Prohibition III.C (No controllable condition shall create a nuisance**). This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance

4. **Prohibition III.D (No discharge of hazardous waste)**. This prohibition is based on California Code of Regulations, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.

5. **Prohibition III.E (Average Dry Weather Flow)**. This prohibition is based on the design average dry weather flow treatment capacity rating for the Facility and ensures the Facility is operated within its treatment capacity. R5-2016-0001 included flow as an effluent limit based on the Facility design flow. Flow is not a pollutant and therefore has been changed from an effluent limit to a discharge prohibition in this Order, which is an equivalent level of regulation. This Order is not less stringent because compliance with flow as a discharge prohibition will be calculated the same way as the previous Order. Future expansion to 5.1 MGD is planned at the Facility and the Discharger has satisfied the state and federal antidegradation requirements for the permitted expansion (see Section IV.D.4). However, this Order would need to be reopened and amended in order to permit the increased flow.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. part 133.

Regulations promulgated in 40 C.F.R. section 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTW's [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator.

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. In addition, 40 C.F.R. section 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month. This Order requires Water Quality Based Effluent Limitations (WQBEL's) that are equal to or more stringent than the secondary technology-based treatment described in 40 CFR part 133 (See section IV.C.3.c.iv of the Fact Sheet for a discussion on Pathogens which includes WQBEL's for BOD_5 and TSS.)

b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 also require that pH be maintained between 6.0 and 9.0 standard units. This Order, however, requires more stringent WQBEL's for pH to comply with the Basin Plan's water quality objectives for pH.

Summary of Technology-based Effluent Limitations
Discharge Point 001

Table F-5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
BOD_5	mg/L	AMEL 30 AWEL 45
BOD_5	percent removal	Average Monthly greater than or equal to 85
TSS	mg/L	AMEL 30 AWEL 45
TSS	percent removal	Average Monthly greater than or equal to 85
pH	standard units	Instantaneous Min 6.0 Instantaneous Max 9.0

Table F-5 Note:

1. Note that more stringent WQBELs for BOD_5, TSS, and pH are applicable and are established as final effluent limitations in this Order (see section IV.C.3.c of this Fact Sheet).

C. Water Quality-Based Effluent Limitations (WQBEL's)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment, is discussed in section IV.C.3 of this Fact Sheet.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBEL's must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBEL's when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page 2-1 states: "Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…" and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses."

The federal CWA section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be

designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** Refer to III.C.1. above for a complete description of the receiving water and beneficial uses.

b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from May 2017 through April 2020, which includes effluent and ambient background data submitted in SMRs and the Effluent and Receiving Water Characterization Study.

c. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP and the CTR. The SIP and the CTR require the use of “receiving water” or “actual ambient” hardness, respectively, to determine effluent limitations for these metals. The CTR requires that the hardness values used shall be consistent with the design discharge conditions for design flows and mixing zones. Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10). This section of the CTR also indicates that the design conditions should be established such that the appropriate criteria are not exceeded more than once in a three-year period on average. The CTR requires that when mixing zones are allowed the CTR criteria apply at the edge of the mixing zone, otherwise the criteria apply throughout the water body including at the point of discharge. The CTR does not define the term “ambient,” as applied in 40 C.F.R. section 131.38(c)(2)(i). Therefore, the Central Valley Water Board has considerable discretion to consider upstream and downstream ambient conditions when establishing the appropriate water quality criteria that fully complies with the CTR and SIP.

Summary findings

At design discharge conditions the Western Pacific Interceptor Canal is

effluent dominated. Under these regularly occurring critical conditions the effluent is the receiving water that is used to define the ambient receiving water conditions to define the appropriate water quality criteria in accordance with the CTR and SIP, otherwise if ambient downstream hardness was collected on the same day as effluent hardness, the downstream ambient hardness value is used. The Sacramento Superior Court has previously upheld the Central Valley Water Board's use of effluent hardness levels in effluent-dominated streams when developing effluent limitations for hardness-dependent metals. (California Sportsfishing Protection Alliance v. California Regional Water Quality Control Board, Central Valley Region, Super. Ct. Sacramento County, 2012, No. 34-2009-80000309) (Order Denying Petitioners' Motion to Strike Respondent's Return of Writ of Mandate and Granting Discharge of the Writ)). The ambient hardness for the Western Pacific Interceptor Canal is represented by the data in Figure F-1, below, which shows ambient hardness ranging from 21 mg/L to 48 mg/L based on all collected ambient data from January 2017 through March 2019. Given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 21 mg/L (minimum) up to 48 mg/L (maximum). Staff recommends that the Board use the ambient hardness values shown in Table F-6 for the following reasons.

i. The ambient receiving water hardness values shown in Table F-6 are consistent with design discharge conditions and will result in criteria and effluent limitations that ensure protection of beneficial uses under all ambient receiving water conditions.

ii. The Water Code mandates that the Central Valley Water Board establish permit terms that will ensure the reasonable protection of beneficial uses. In this case, using the lowest measured ambient hardness to calculate effluent limitations is not required to protect beneficial uses. Calculating effluent limitations based on the lowest measured ambient hardness is not required by the CTR or SIP and is not reasonable as it would result in overly conservative limits that will impart substantial costs to the Discharger and ratepayers without providing any additional protection of beneficial uses. In compliance with applicable state and federal regulatory requirements, after considering the entire range of ambient hardness values, Board staff has used the ambient hardness values shown in Table F-6 to calculate the proposed effluent limitations for hardness-dependent metals. The proposed effluent limitations are protective of beneficial uses under all flow conditions.

iii. Using an ambient hardness that is higher than the minimum observed ambient hardness will result in limits that may allow increased metals to be discharged to the Western Pacific Interceptor Canal, but such

discharge is allowed under the State Antidegradation Policy (State Water Board Resolution 68-16). The Central Valley Water Board finds that this degradation is consistent with the antidegradation policy (see antidegradation findings in section IV.D.4 of the Fact Sheet). The State Antidegradation Policy requires the Discharger to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that: a) a pollution or nuisance will not occur, and b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

iv. Using the ambient hardness values shown in Table F-6 is consistent with the CTR and SIP's requirements for developing metals criteria.

Table F-6. Summary of CTR Criteria for Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)	CTR Criteria (µg/L, total recoverable) (Acute)	CTR Criteria (µg/L, total recoverable) (Chronic)
Cadmium	113 (acute) 130 (chronic)	5.2	3.0
Chromium III	130	2,200	260
Copper	130	18	12
Lead	100	82	3.2
Nickel	130	586	65
Silver	80	2.8	--
Zinc	130	150	150

Table F-6 Notes:

1. CTR Criteria (ug/L total recoverable). Acute and chronic numbers were rounded to two significant figures in accordance with the CTR (40 C.F.R. section 131.38(b)(2)).
2. Ambient hardness (mg/L). Values in table F-6 represent actual observed receiving water hardness measurements from the dataset shown in Figure F-1.
3. The CTR's hardness dependent metals criteria equations vary differently depending on the metal, which results in differences in the range of ambient hardness values that may be used to develop effluent limitations that are protective of beneficial uses and comply with CTR criteria for all ambient flow conditions.

Background

The State Water Board provided direction regarding the selection of hardness in two precedential water quality orders; WQO 2008-0008 for the City of Davis Wastewater Treatment Plant (Davis Order) and WQO 2004-0013 for the Yuba City Wastewater Treatment Plant (Yuba City Order). The State Water Board recognized that the SIP and the CTR do not discuss the manner in which hardness is to be ascertained, thus regional

water boards have considerable discretion in determining ambient hardness so long as the selected value is protective of water quality criteria under the given flow conditions. (Davis Order, p.10). The State Water Board explained that it is necessary that, “The [hardness] value selected should provide protection for all times of discharge under varying hardness conditions.” (Yuba City Order, p. 8). The Davis Order also provides that, “Regardless of the hardness used, the resulting limits must always be protective of water quality criteria under all flow conditions.” (Davis Order, p. 11)

For this discussion, all hardness values are expressed in mg/L as $CaCO_3$. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

CTR Criterion = WER x ($e^{m[\ln(H)]+b}$) (Equation 1)

Where:

H = ambient hardness (as $CaCO_3$)

WER = water-effect ratio

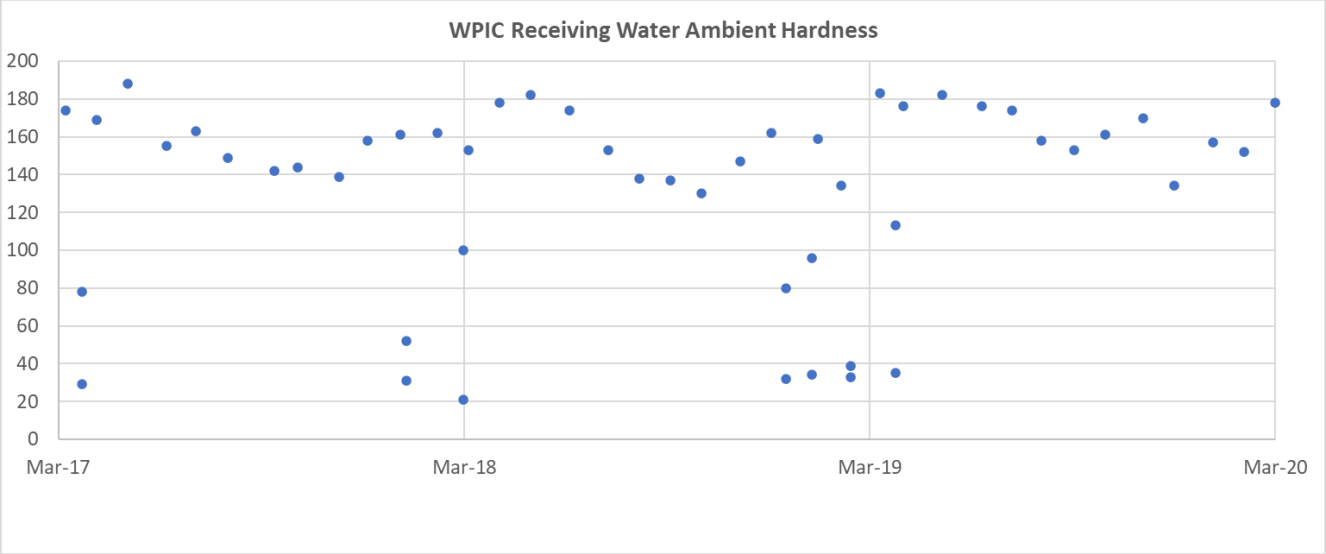
m, b = metal- and criterion-specific constants

The direction in the CTR regarding hardness selection is that it must be based on ambient hardness and consistent with design discharge conditions for design flows and mixing zones. Consistent with design discharge conditions and design flows means that the selected “design” hardness must result in effluent limitations under design discharge conditions that do not result in more than one exceedance of the applicable criteria in a three year period, as discussed in 40 C.F.R. section 131.38(c)(2)(iii) Table 4, notes 1 and 2. Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10). Since the Western Pacific Interceptor Canal regularly contains no upstream flow, the critical design flow is zero.

Ambient conditions

The ambient receiving water hardness varied from 21 to 188 mg/L, based on 51 samples from March 2017 through March 2020 (see Figure F-1).

Figure F-1. Ambient Hardness (March 2017 to March 2020)



In this analysis, the entire range of ambient hardness concentrations shown in Figure F-1 were considered to determine the appropriate ambient hardness to calculate the CTR criteria and effluent limitations that are protective under all discharge conditions.

Approach to derivation of criteria

As shown above, ambient hardness is variable. Because of the variation, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum, mid-point). While the hardness selected must be hardness of the ambient receiving water, selection of an ambient receiving water hardness that is too high would result in effluent limitations that do not protect beneficial uses. Also, the use of minimum ambient hardness would result in criteria that may not be representative considering the wide range of ambient conditions.

Reasonable worst-case ambient conditions. To determine whether a selected ambient hardness value results in effluent limitations that are fully protective while complying with federal regulations and state policy, staff have conducted an analysis considering varying ambient hardness and flow conditions. To do this, the Central Valley Water Board has ensured that the receiving water hardness and criteria selected for effluent limitations are protective under “reasonable-worst case ambient conditions.” These conditions represent the receiving water conditions under which derived effluent limitations would ensure protection of beneficial uses under all ambient flow and hardness conditions.

Reasonable worst-case ambient conditions:

- “Low receiving water flow.” CTR design discharge conditions (1Q10 and 7Q10) have been selected to represent reasonable worst-case receiving water flow conditions.
- “High receiving water flow (maximum receiving water flow).” This additional flow condition has been selected consistent with the Davis

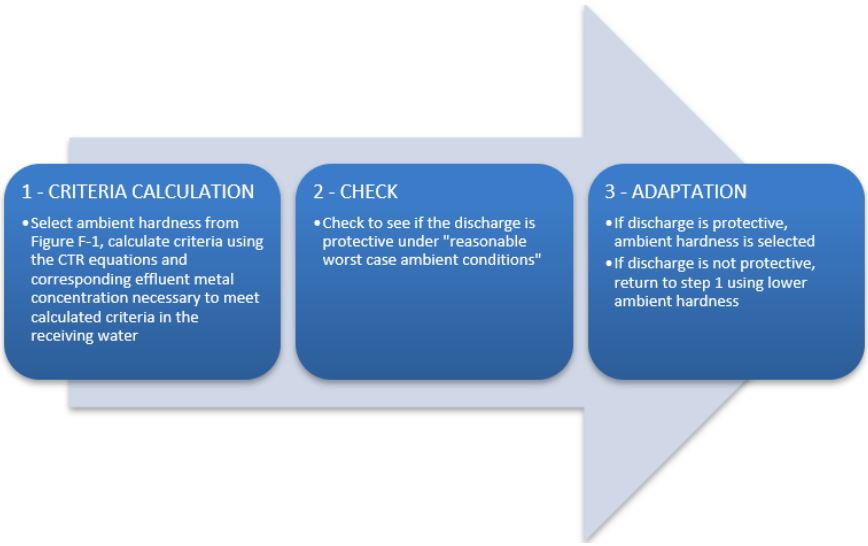
Order, which required that the hardness selected be protective of water quality criteria under all flow conditions.

- "Low receiving water hardness." The minimum ambient receiving water hardness condition of 21 mg/L was selected to represent the reasonable worst-case receiving water hardness.
- "Background ambient metal concentration at criteria." This condition assumes that the metal concentration in the background receiving water is equal to CTR criteria (upstream of the facility's discharge). Based on data in the record, this is a design condition that has not occurred in the receiving water and is used in this analysis to ensure that limits are protective of beneficial uses even in the situation where there is no assimilative capacity.

Iterative approach. An iterative analysis has been used to select the ambient hardness to calculate the criteria that will result in effluent limitations that protect beneficial uses under all flow conditions.

The iterative approach is summarized in the following algorithm and described below in more detail.

Figure F-2. Criteria Calculation CTR



1. **CRITERIA CALCULATION.** CTR criteria are calculated using the CTR equations based on actual measured ambient hardness sample results, starting with the maximum observed ambient hardness of 21 mg/L. Effluent metal concentrations necessary to meet the above calculated CTR criteria in the receiving water are calculated in accordance with the SIP, section 1.4.B, Step 2, which provides direction for calculating the Effluent Concentration Allowance. This should not be confused with an effluent limit. Rather, it is the Effluent Concentration Allowance (ECA), which is synonymous with the wasteload allocation defined by U.S. EPA in the "U.S. EPA Technical Support Document for Water Quality-based Toxics Control (TSD)", pg. 96, as "a definition of effluent water quality that is necessary to meet

the water quality standards in the receiving water." If effluent limits are found to be needed, the limits are calculated to enforce the ECA considering effluent variability and the probability basis of the limit.

2. **CHECK.** Per the "U.S. EPA NPDES Permit Writers' Handbook" (EPA 833-K-10-001 September 2010, pg. 6-24), U.S. EPA's simple mass balance equation is used to evaluate if discharge at the computed ECA is protective. Resultant downstream metal concentrations are compared with downstream calculated CTR criteria under reasonable worst-case ambient conditions.

3. **Adapt.** If step 2 results in:

   (a) Receiving water metal concentration that complies with CTR criteria under reasonable worst-case ambient conditions, then the hardness value is selected.

   (b) Receiving water metal concentration greater than CTR criteria, then return to "Reasonable worst-case ambient conditions" above, selecting a lower ambient hardness value.

   The CTR's hardness dependent metals criteria equations contain metal-specific constants, so the criteria vary depending on the metal. Therefore, steps 1 through 3 must be repeated separately for each metal until ambient hardness values are determined that will result in criteria and effluent limitations that comply with the CTR and protect beneficial uses for all metals.

   Results of iterative analysis

   The iterative analysis for each CTR hardness-dependent metal results in the selected ambient hardness values shown in Table F-6, above. Using actual ambient sample hardness values to calculate criteria will result in effluent limitations that are protective under all ambient flow conditions. Ambient hardness values are used in the CTR equations to derive criteria and effluent limitations. As an example of the three-step iterative process, Table F-7 below summarizes the numeric results for copper based on an ambient hardness of 21 mg/L and a calculated ECA of 12 µg/L. Table F-8 further below summarizes the numeric results for lead based on an ambient hardness of 21 mg/L and a calculated ECA of 18 µg/L. The analysis evaluated all flow conditions, and the numeric values for the critical flow conditions are summarized in Tables F-7 and F-8, below. Ambient concentrations for copper and lead are calculated using the worst-case downstream ambient conditions, which allows for a conservative assumption that will ensure the receiving water complies with CTR criteria. Under the "check" step, worst-case ambient receiving water conditions are used to test whether the effluent discharge results in compliance with CTR criteria and protection of beneficial uses.

   The results of the iterative analyses show that the ambient hardness values selected using the three-step iterative process results in protective effluent limitations that achieve CTR criteria under all flow

conditions. Tables F-7 and F-8 below, summarize the critical flow conditions. This Order includes average monthly and maximum daily effluent limits for copper of 11 µg/L and 17µg/L, respectively. The effluent limits were calculated per section 1.4 of the SIP, which ensures compliance with the ECA considering effluent variability and the probability basis of each effluent limit.

Table F-7. Verification of CTR Compliance for Copper

Critical Flow Conditions	Hardness (mg/L)	CTR Criteria (µg/L)	Ambient Copper Concentration (µg/L)	Complies with CTR?
1Q10	130	12	11.7	Yes
7Q10	130	12	11.7	Yes
Max receiving water flow	54.6	5.6	5.3	Yes

Table F-8. Verification of CTR Compliance for Lead

Critical Flow Conditions	Hardness (mg/L)	CTR Criteria (µg/L)	Ambient Silver Concentration (µg/L)	Complies with CTR?
1Q10	130	3.2	3.2	Yes
7Q10	130	3.2	3.2	Yes
Max receiving water flow	54.6	1.5	1.3	Yes

3. Determining the Need for WQBEL's

Clean Water Act section 301(b)(1)(C) requires effluent limitations necessary to meet water quality standards, and 40 C.F.R. section 122.44(d) requires NPDES permits to include conditions that are necessary to achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. Federal regulations at 40 C.F.R 122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Additionally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available wasteload allocations developed and approved for the discharge. The process to determine whether a WQBEL is required as described in 40 C.F.R. section 122.44(d)(1)(i) is referred to as a reasonable potential analysis or RPA. Central Valley Water Board staff conducted RPA's for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. This section includes details of the RPA's for constituents of concern for the Facility. The entire RPA is included in the administrative record and a summary of the constituents of concern is provided

in Attachment G. For priority pollutants, the SIP dictates the procedures for conducting the RPA. For non-priority pollutants the Central Valley Water Board is not restricted to one particular RPA method, therefore, the RPA's have been conducted based on EPA guidance considering multiple lines of evidence and the site-specific conditions of the discharge.

a. **Constituents with Total Maximum Daily Loads (TMDL's).** 40 C.F.R. section 122.44(d)(1)(vii) provides: *"When developing water quality-based effluent limits under [section 122.44(d)(1)], the permitting authority shall ensure that: (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available waste load allocation for the discharge prepared by the State and approved by EPA pursuant to [Total Maximum Daily Loads regulations]."* U.S. EPA construes 40 C.F.R. section 122.44(d)(1)(vii)(B) to mean that *"when WLA's are available, they must be used to translate water quality standards into NPDES permit limits."* 54 Fed. Reg. 23868, 23879 (June 2, 1989).

The Western Pacific Interceptor Canal is subject to TMDL's for diazinon and chlorpyrifos and WLA's under those TMDL's are available. The Central Valley Water Board developed WQBEL's for these pollutants pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate an RPA.

i. **Diazinon and Chlorpyrifos**

(a) **WQO.** The Central Valley Water Board completed a TMDL for the Control of Diazinon and Chlorpyrifos Discharges and amended the Basin Plan to include diazinon and chlorpyrifos WLA's and water quality objectives. The Basin Plan Amendment for the Control of Diazinon and Chlorpyrifos Discharges was adopted by the Central Valley Water Board on 28 March 2014 and became effective on 16 August 2017.

The amendment modified Basin Plan Chapter III (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos in the Delta waterways and identified the requirements to meet the additive formula already in Basin Plan Chapter IV (Implementation) for the additive toxicity of diazinon and chlorpyrifos.

The Basin Plan states at section 4.5.5.3(6) that "The waste load allocations (WLA) for all NPDES-permitted dischargers…shall not exceed the sum (S) of one (1) as defined below.

(b) **RPA Results.** chlorpyrifos and diazinon were not detected in the effluent based on two samples collected between September 2018 and November 2018. No samples were taken in the receiving water during this time.

(c) **WQBEL's.** WQBEL's for diazinon and chlorpyrifos are required based on the TMDL for the Control of Diazinon and Chlorpyrifos Discharges. Therefore, this Order includes effluent limits calculated based on the WLA's contained in the TMDL, as follows:

Average Monthly Effluent Limitation (AMEL)

$$S_{AMEL} = \frac{C_{D\ M-AVG}}{0.079} + \frac{C_{C\ M-AVG}}{0.012} < 1.0$$

$C_{D\ M-AVG}$ = average monthly diazinon effluent concentration in µg/L.

$C_{C\ M-AVG}$ = average monthly chlorpyrifos effluent concentration in µg/L

Average Weekly Effluent Limitation (AWEL)

$$S_{AWEL} = \frac{C_{D\ W-AVG}}{0.14} + \frac{C_{C\ W-AVG}}{0.021} \leq 1.0$$

$C_{D\ W-AVG}$ = average weekly diazinon effluent concentration in µg/L

$C_{C\ W-AVG}$ = average weekly chlorpyrifos effluent concentration in µg/L

(d) **Plant Performance and Attainability.** Diazinon and chlorpyrifos were not detected in the effluent. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

b. **Constituents with No Reasonable Potential.** Central Valley Water Board staff conducted reasonable potential analyses for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. All reasonable potential analyses are included in the administrative record and a summary of the constituents of concern is provided in Attachment G. WQBEL's are not included in this Order for constituents that do not demonstrate reasonable potential to cause or contribute to an instream excursion of an applicable water quality objective; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. This section only provides the rationale for the reasonable potential analyses for the following constituents of concern that were found to have no reasonable potential after assessment of the data:

i. **Lead**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for lead. These criteria for lead are presented in dissolved concentrations, as 1-hour acute criteria

and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for the receiving water and effluent.

(b) **RPA Results.** Section IV.C.2 of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as lead. The CTR includes hardness-dependent criteria for lead for the receiving water. The maximum observed upstream receiving water lead concentration was 1.3 µg/L, based on 1 sample collected in March 2018. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum ambient background concentration, and likewise using the reasonable worst-case downstream hardness to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA:

Table F-9. Lead Site Specific Criteria

Water Type	CTR Chronic Criterion (Total Recoverable)	Maximum Concentration (Total Recoverable)	Reasonable Potential?
Receiving Water	0.4 µg/L	1.3 µg/L	No (SIP section 1.3 step 6)
Effluent	3.2 µg/L	Non-detect	No

Table F-9 Notes:

1. **Receiving Water.** The CTR Chronic Criterion (Total Recoverable) for the receiving water is based on lowest observed upstream hardness of 21 mg/L (as $CaCO_3$). Reasonable potential for the receiving water is per section 1.3, step 5 and 6 of the SIP.
2. **Effluent.** The CTR Chronic Criterion (Total Recoverable) for the effluent is based on reasonable worst-case downstream hardness of 130 mg/L (as $CaCO_3$). Reasonable potential for the Effluent is per section 1.3, step 4 of the SIP.

Based on the available data, lead in the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life, as lead was not detected in the effluent. Effluent monitoring has been required per section 1.3, step 6 of the SIP, as part of the Effluent and Receiving Water Characterization Monitoring.

ii. **Mercury**

(a) **WQO**. The current NAWQC for protection of freshwater aquatic life, continuous concentration, for mercury is 0.77 µg/L (30-day average, chronic criteria). The CTR contains a human health

criterion (based on a threshold dose level causing neurological effects in infants) of 0.050 µg/L for waters from which both water and aquatic organisms are consumed. Both values are controversial and subject to change. In 40 C.F.R. part 131, U.S. EPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "…more stringent mercury limits may be determined and implemented through use of the State's narrative criterion." In the CTR, U.S. EPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

The State Water Board adopted Resolution 2017-0027 on 2 May 2017, which approved Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Statewide Mercury Provisions). The Statewide Mercury Provisions establish a Sport Fish Water Quality Objective of an average 0.2 mg/kg methylmercury fish tissue concentration within a calendar year for waters with the beneficial uses of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), and marine habitat (MAR). This fish tissue objective corresponds to a water column concentration of 12 ng/L of total mercury for flowing water bodies (e.g., rivers, creeks, streams, and waters with tidal mixing). As shown in Table F-3, the beneficial uses of the Western Pacific Interceptor Canal include WILD; therefore, the Sport Fish Water Quality Objective is applicable and is the most stringent objective.

(b) **RPA Results.** The Statewide Mercury Provisions specify that the RPA shall be conducted using the maximum annual average effluent and background mercury concentrations for comparison with the Sport Fish Water Quality Objective. The maximum observed effluent mercury concentration was 1.5 ng/L, with a maximum annual average of 9.1 ng/L, based on sixteen samples collected from April 2017 to January 2020. The maximum annual average background concentration for mercury was non-detect based on one sample collected during 2018.

The discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the Sport Fish Water Quality Objective in the receiving water. Also, the Facility does not directly discharge to the Lower Bear River, which has been listed as an impaired water body pursuant to CWA section 303(d) because of mercury, meaning WLAs are not applicable to this Facility.

iii. **Salinity**

(a) **WQO.** The Basin Plan contains a chemical constituent objective that incorporates state MCLs, contains a narrative objective, and contains numeric water quality objectives for certain specified water

bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no U.S. EPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no U.S. EPA numeric water quality criteria for the protection of agricultural, livestock, and industrial uses. Numeric values for the protection of these uses are typically based on site specific conditions and evaluations to determine the appropriate constituent threshold necessary to interpret the narrative chemical constituent Basin Plan objective. The Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. Table F-10, below, contains various recommended levels for salinity parameters.

Table F-10. Salinity Water Quality Criteria/Objectives

Parameter	Secondary MCL Recommended Level	Secondary MCL Upper Level	Secondary MCL Short-term Maximum	Maximum Calendar Annual Average Effluent Concentration	Maximum Daily Effluent Concentration
EC (µmhos/cm) or TDS (mg/L)	EC 900 or TDS 500	EC 1,600 or TDS 1,000	EC 2,200 or TDS 1,500	EC 697 TDS 463	EC 797 TDS 500
Sulfate (mg/L)	250	500	600	--	28 (Data from Order R5-2010-0074)
Chloride (mg/L)	250	500	600	--	130 Data from Order R5-2010-0074)

Table F-10 Notes:

1. **Agricultural Water Quality Objectives**. Applicable agricultural water quality objectives vary and the Basin Plan includes a narrative objective for salinity. Procedures for establishing the applicable numeric limitation to implement the narrative objective can be found in the Policy for Application of Water Quality Objectives, section 4.2.2.1.9 of the Basin Plan. However, the Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.
2. **Secondary MCLs.** Secondary MCLs are for protection of public welfare and are stated as a recommended level, upper level, and a short-term maximum level.

3. **Chloride.** The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.
4. **Electrical Conductivity/Total Dissolved Solids.** The Secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum, or when expressed as TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum.
5. **Sulfate.** The Secondary MCL for sulfate is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(b) **RPA Results.**

(1) ***Chloride***. Order R5-2016-0001 did not require monitoring for chloride. In Order R5-2010-0074, chloride concentrations in the effluent ranged from 92 mg/L to 130 mg/L, with an average of 112 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in receiving water ranged from 13 mg/L to 105 mg/L, with an average of 48 mg/L, for 3 samples collected by the Discharger from January 2012 through April 2013.

(2) ***Electrical Conductivity or Total Dissolved Solids.*** A review of the Discharger's monitoring reports shows an average effluent EC of 684 µmhos/cm, with a range from 390 µmhos/cm to 780 µmhos/cm, for 160 samples collected from January 2017 through December 2019. These levels do not exceed the recommended Secondary MCL. The background receiving water EC averaged 172 µmhos/cm, with a range of from 69 µmhos/cm to 672 µmhos/cm, for 13 samples collected from January 2017 through March 2019. The average TDS effluent concentration was 423 mg/L with a range from 91 mg/L to 500 mg/L, for 33 samples collected from January 2017 through December 2019. These levels do not exceed the recommended Secondary MCL. The background receiving water TDS ranged from 67 mg/L to 94 mg/L, with an average of 84.5 mg/L, for 6 samples collected from March 2017 through February 2019.

(3) ***Sulfate.*** Order R5-2016-0001 did not require monitoring for sulfate. In Order R5-2010-0074, Sulfate concentrations in the effluent ranged from 20 mg/L to 28 mg/L, with an average of 23 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in receiving water ranged from 3.8 mg/L to 19 mg/L, with an average of 10 mg/L.

(c) **WQBELs.** As discussed above, the discharge does not have reasonable potential to cause or contribute to an instream excursion of water quality objectives for salinity. However, allowing the Discharger to increase its current salt loading may be contrary to the Region-wide effort to address salinity in the Central Valley. Therefore, this Order includes a performance-based effluent

limitation of 875 µmhos/cm for EC to be applied as a calendar annual average effluent limitation (AAEL) to limit the discharge to current levels.

The performance-based AAEL is based on the maximum annual average effluent EC concentration for a calendar year using data from January 2017 through December 2019, adjusted to account for possible drought, water conservation, and water recycling efforts. Furthermore, in order to ensure that the Discharger will continue to control the discharge of salinity, this Order requires continued implementation of its Salinity Evaluation and Minimization Plan.

On 17 January 2020, certain amendments to the Basin Plan incorporating a Program to Control and Permit Salt Discharges to Surface and Groundwater (Salt Control Program) became effective. Other amendments became effective on 2 November 2020 when approved by the U.S. EPA. The Salt Control Program is a three-phased program, with each phase lasting 10 to 15 years. The Basin Plan requires all salt dischargers to comply with the provisions of the program. Two compliance pathways are available for salt dischargers during Phase 1.

The Phase 1 Compliance pathways are: 1) Conservative Salinity Permitting Approach, which utilizes the existing regulatory structure and focuses on source control, conservative salinity limits on the discharge, and limits the use of assimilative capacity and compliance time schedules; and, 2) Alternative Salinity Permitting Approach, which is an alternative approach to compliance through implementation of specific requirements such as participating in the Salinity Prioritization and Optimization Study (P&O) rather than the application of conservative discharge limits.

The performance-based AAEL for EC in this Order is consistent with the Alternative Salinity Permitting Approach and compliance with the effluent limit does not ensure the Facility can participate in the Conservative Salinity Permitting Approach. If the Discharger is authorized to participate in the Conservative Salinity Permitting Approach the conservative salinity limits required by the Salinity Control Program will be applied, which may result in more stringent effluent limits.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the discharge has not exceeded the applicable performance-based effluent limitation. The Central Valley Water Board concludes, therefore, that immediate compliance with this effluent limitation is feasible.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, BOD_5, copper, nitrate plus nitrite, pH, total coliform organisms, and TSS. WQBEL's for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Ammonia**

(a) **WQO.** The 2013 U.S. EPA National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for total ammonia (2013 Criteria), recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. U.S. EPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC.

The 2013 Criteria reflects the latest scientific knowledge on the toxicity of ammonia to certain freshwater aquatic life, including toxicity data on sensitive freshwater unionid mussels, non-pulmonary snails, and other freshwater organisms. The inclusion of new toxicity data for unionid mussels resulted in substantially more stringent criteria. In many cases, current wastewater treatment technologies are not capable of complying with effluent limitations based on the more stringent criteria.

The Central Valley Clean Water Association (CVCWA) organized a coordinated effort for POTWs within the Central Valley Region, the Freshwater Mussel Collaborative Study for Wastewater Treatment Plants, to determine how the latest scientific knowledge on the toxicity of ammonia reflected in the 2013 Criteria could be implemented in the Central Valley Region. Phase I, completed in June 2015, included a State of Knowledge Report developed by a consultant team consisting of Robertson-Bryan, Inc., Larry Walker Associates, and Pacific EcoRisk. The collaborative study involved policy and permitting discussions among representatives from the Central Valley Water Board, U.S. EPA, United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and regional mussel experts regarding the implementation of the 2013 Criteria in POTW NPDES permits. The discussions evaluated permitting approaches that provide reasonable protection of aquatic life beneficial uses, including protection of freshwater mussels.

The State of Knowledge Report explained that the species of freshwater mussels in waters within the Central Valley Region are different than what U.S. EPA used in the toxicity dataset for development of the 2013 Criteria. The State of Knowledge Report

indicated that one resident freshwater mussel species was shown to not be as sensitive as the eastern mussel species used to derive the 2013 Criteria. However, the sensitivity of the other Central Valley Region mussel species was unknown.

Initial work under this project indicated the need to understand whether freshwater mussels are present or absent in POTW receiving waters in order to properly permit the discharge of ammonia in NPDES permits. Hence, a Phase II of the CVCWA study was conducted that developed and validated an effective environmental DNA (eDNA) method for determining the presence/absence of the three freshwater mussel genera in water bodies of the Central Valley. A Phase IIb of the study involved further study and application of the eDNA methodology.

CVCWA submitted the Phase IIc Freshwater Mussel Collaborative Study for Wastewater Treatment Plants: Ammonia Criteria Recalculation Final Report, dated January 2020 (Criteria Recalculation Report) developed by the same consultant team. The Criteria Recalculation Report provides toxicity studies demonstrating all freshwater mussel species present in Central Valley Region waters are less sensitive than the eastern species used to develop the 2013 Criteria.

U.S. EPA developed the Guidelines for Deriving Numerical Aquatic Site-Specific Water Quality Criteria by Modifying National Criteria (EPA-600/S3-84-099 December 1984) that provides a Recalculation Procedure. U.S. EPA also developed the Revised Deletion Process for the Site-Specific Recalculation Procedure for Aquatic Life Criteria (EPA-823-R-13-001, April 2013) to guide the development of a site-specific toxicity dataset that is appropriate for deriving a site-specific aquatic life criterion, by modifying the national toxicity dataset for the pollutant of concern through correcting, adding, and/or deleting test results.

The Criteria Recalculation Report implemented U.S. EPA's Recalculation Procedure utilizing toxicity bioassays conducted on resident mussel species to replace the toxicity data for the eastern mussel species in the national dataset to develop site-specific ammonia criteria for waters within the Central Valley Region, including all surface waters in the Sacramento River, San Joaquin River, and Tulare Lake Basin Plans.

A draft Criteria Recalculation Report was provided to the Central Valley Water Board, U.S. EPA Region 9, U.S. EPA Office of Science and Technology, USFWS, and the Nature Conservancy. Comments were provided by Central Valley Water Board staff and U.S. EPA Office of Science and Technology. U.S. EPA agreed with the recalculation procedure for developing site-specific acute criterion. However, U.S. EPA recommended a more conservative approach for utilizing the acute-to-chronic ratio procedure for

developing the site-specific chronic criterion. The final Criteria Recalculation Report addressed the comments and provided revised equations for the chronic criterion in Appendix D.

The Basin Plans' Policy for Application of Water Quality Objectives requires the Central Valley Water Board to consider, "…on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or published by other agencies and organizations…In considering such criteria, the Board evaluates whether the specific numerical criteria which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective."

The Central Valley Water Board finds that the site-specific ammonia criteria provided in the January 2020 Criteria Recalculation Report implement the Basin Plan's narrative toxicity objective to protect aquatic life beneficial uses of the receiving water. This Order implements the site-specific acute and chronic criteria for ammonia provided by the January 2020 Criteria Recalculation Report, with the adjustments to the chronic criteria recommended by U.S. EPA.

The acute (1-hour average) criterion or CMC was calculated using paired effluent pH and temperature data, collected during the period from March 2017 and February 2020. The most stringent CMC of 5.02 mg/L (ammonia as N) calculated using the paired effluent pH and temperature data has been implemented in this Order.

The chronic (30-day average) criterion or CCC was calculated using paired downstream receiving water pH and temperature data, collected during the period from March 2017 and March 2019. The most stringent 30-day rolling average CCC of 3.47 mg/L (ammonia as N) has been implemented in this Order.

The chronic (4-day average) concentration is derived in accordance with the U.S. EPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 3.47 mg/L (ammonia as N), the 4-day average concentration that should not be exceeded is 8.67 mg/L (ammonia as N).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan narrative toxicity objective. Federal regulations at 40 C.F.R. section122.44(d)(1)(i) requires that, "Limitations must control all pollutants or pollutant parameters (either conventional,

nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Ammonia is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTW's, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50).

Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia in concentrations that produce detrimental physiological responses to human, plant, animal, or aquatic life would violate the Basin Plan's narrative toxicity objective. Although the Discharger nitrifies the discharge, inadequate or incomplete nitrification creates the potential for ammonia to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the site-specific acute

and chronic criteria for ammonia provided by the January 2020 Criteria Recalculation Report. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBEL's are required.

(c) **WQBEL's.** The Central Valley Water Board calculates WQBEL's in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period. The lowest LTA representing the acute, 4-day CCC, and 30-day CCC is then selected for deriving the average monthly effluent limitation (AMEL) and the average weekly effluent limitation (AWEL). The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures. This Order contains a final AMEL and MDEL for ammonia of 1.6 mg/L and 3.6 mg/L, respectively.

(d) **Plant Performance and Attainability.** Analysis of 158 effluent samples from March 2017 through February 2020 shows that the maximum average weekly concentration of 2.2 mg/L and the maximum average monthly concentration of 0.71 mg/L are less than the applicable AWEL and AMEL. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

ii. **Copper**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for the receiving water and effluent.

(b) **RPA Results.** Section IV.C.2 of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as copper. The CTR includes hardness-dependent criteria for copper for the receiving water. The maximum observed upstream receiving water copper concentration was 6.2 µg/L, based on 1 sample collected in March 2018. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum ambient background concentration, and likewise using the reasonable

worst-case downstream hardness to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA:

Table F-11. Copper Site Specific Criteria

Water Type	CTR Chronic Criterion (Total Recoverable)	Maximum Concentration (Total Recoverable)	Reasonable Potential?
Receiving Water	2.5 µg/L	6.2 µg/L	Yes
Effluent	12 µg/L	2.8 µg/L	No

Table F-11 Notes:

1. **Receiving Water.** The CTR Chronic Criterion (Total Recoverable) for the receiving water is based on lowest observed upstream hardness of 21 mg/L (as $CaCO_3$). Reasonable potential for the receiving water is per section 1.3, step 4 of the SIP.
2. **Effluent.** The CTR Chronic Criterion (Total Recoverable) for the effluent is based on reasonable worst-case downstream hardness of 130 mg/L (as $CaCO_3$). Reasonable potential for the Effluent is per section 1.3, step 6 of the SIP.

Based on the available data, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

(c) **WQBEL's**. Due to no assimilative capacity, dilution credits are not allowed for development of the WQBEL's for copper. This Order contains a final AMEL and MDEL for copper of 11 µg/L and 17 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 2.8 µg/L is less than the applicable WQBEL's. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **Nitrate and Nitrite**

(a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

U.S. EPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan's narrative toxicity objective. This Order, therefore, requires removal of ammonia (i.e., nitrification). Nitrification is a biological process that converts ammonia to nitrate and nitrite, and will result in effluent nitrate concentrations above the Primary MCL for nitrate plus nitrite. Nitrate concentrations in a drinking water supply above the Primary MCL threatens the health of human fetuses and newborn babies by reducing the oxygen-carrying capacity of the blood (methemoglobinemia).

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Nitrate and nitrite are not priority pollutants. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTW'S, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The concentration of nitrogen in raw domestic wastewater is sufficiently high that the resultant treated wastewater has a reasonable potential to exceed or threat to exceed the Primary MCL for nitrate plus nitrite unless the wastewater is treated for nitrogen removal, and therefore an effluent limit for nitrate plus nitrite is required. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification/denitrification to remove ammonia, nitrite, and nitrate from the waste stream. Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. Discharges of nitrate plus nitrite in concentrations that exceed the Primary MCL would violate the Basin Plan's narrative chemical constituents' objective. Although the Discharger denitrifies the discharge, inadequate or incomplete denitrification creates the potential for nitrate and nitrite to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for nitrate plus nitrite and WQBEL's are required.

(c) **WQBEL's.** Due to no assimilative capacity, dilution credits are not allowed for development of the WQBEL's for nitrate or nitrite. This Order contains an AMEL and AWEL for nitrate plus nitrite of 10 mg/L and 19 mg/L, respectively, based on the Basin Plan's narrative chemical constituents objective for protection of the MUN beneficial use. These effluent limitations are included in this Order to assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 4.0 mg/L is less than the applicable WQBEL's. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. **Pathogens**

(a) **WQO.** DDW has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL, at any time.

Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "…an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities." Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by the DDW's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens.

(b) **RPA Results.** Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC section 13050 if discharged untreated to the receiving water. Reasonable potential for pathogens therefore exists and WQBEL's are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Pathogens are not priority pollutants. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." (TSD, p. 50)

The beneficial uses of the Lower Bear River include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, less than 20:1 dilution. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBEL's are required.

(c) **WQBEL's.** In accordance with the requirements of Title 22, this Order includes effluent limitations for total coliform organisms of 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL as an instantaneous maximum.

The tertiary treatment process, or equivalent, is capable of reliably treating wastewater to a turbidity level of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, to ensure compliance with the DDW recommended Title 22 disinfection criteria, weekly average specifications are impracticable for turbidity. This Order includes operational specifications for turbidity of 2 NTU as a daily average;

5 NTU, not to be exceeded more than 5 percent of the time within a 24-hour period; and 10 NTU as an instantaneous maximum.

This Order contains effluent limitations for BOD_5, total coliform organisms, and TSS and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Central Valley Water Board has previously considered the factors in Water Code section 13241 in establishing these requirements.

Final WQBEL's for BOD_5 and TSS are based on the technical capability of the tertiary process, which is necessary to protect the beneficial uses of the receiving water. BOD_5 is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed. Therefore, this Order requires AMEL's for BOD_5 and TSS of 10 mg/L, which is technically based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

v. **pH**

(a) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "pH shall not be depressed below 6.5 nor raised above 8.5."

(b) **RPA Results.** Raw domestic wastewater inherently has variable pH. Additionally, some wastewater treatment processes can increase or decrease wastewater pH which if not properly controlled, would violate the Basin Plan's numeric objective for pH in the receiving water. Therefore, reasonable potential exists for pH and WQBEL's are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific

conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Based on 1,099 samples taken from March 2017 to February 2020, the maximum pH reported was 7.8 and the minimum was 6.7. Although the Discharger has proper pH controls in place, the pH for the Facility's influent varies due to the nature of municipal sewage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's numeric objective for pH in the receiving water. Therefore, WQBEL's for pH are required in this Order.

(c) **WQBEL's.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows a minimum value of 6.7 and a maximum value of 7.8 which is within the applicable WQBEL's. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

a. This Order includes WQBEL's for chronic toxicity, ammonia, BOD_5, chlorpyrifos and diazinon, copper, pH, nitrate plus nitrite, total coliform organisms, and TSS. The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from section 1.4 of the SIP:

ECA = C + D(C – B) where C>B, and
ECA = C where C≤B

where:

ECA = effluent concentration allowance
D = dilution credit
C= the priority pollutant criterion/objective
B= the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples.

c. **Primary and Secondary MCLs.** For non-priority pollutants with primary MCL's to protect human health (e.g., nitrate plus nitrite), the AMEL is set equal to the primary MCL and the AWEL is calculated using the AWEL/AMEL multiplier, where the AWEL multiplier is based on a 98th percentile occurrence probability and the AMEL multiplier is from Table 2 of the SIP.

For non-priority pollutants with secondary MCL's that protect public welfare (e.g., taste, odor, and staining), WQBEL's were calculated by setting the LTA equal to the secondary MCL and using the AMEL multiplier to set the AMEL. The AWEL was calculated using the MDEL/AMEL multiplier from Table 2 of the SIP.

d. **Aquatic Toxicity Criteria.** For priority pollutants with acute and chronic aquatic toxicity criteria, the WQBEL's are calculated in accordance with section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e. LTA_{acute} and $LTA_{chronic}$) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers. For non-priority pollutants, WQBEL's are calculated using similar procedures, except that an AWEL is determined utilizing multipliers based on a 98th percentile occurrence probability.

e. **Human Health Criteria.** For priority pollutants with human health criteria, the WQBEL's are calculated in accordance with section 1.4 of the SIP. The AMEL is set equal to the ECA and the MDEL is calculated using the MDEL/AMEL multiplier from Table 2 of the SIP. For non-priority pollutants with human health criteria, WQBEL's are calculated using similar procedures, except that an AWEL is established using the MDEL/AMEL multiplier from Table 2 of the SIP.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:

$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL

$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL

M_A = statistical multiplier converting acute ECA to LTA_{acute}

M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Point No. 001

Table F-12. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily
BOD_5	mg/L	10	15	--
TSS	mg/L	10	15	--
pH	standard units	--	--	8.5; 6.5
Ammonia, total as N	mg/L	1.6	3.6	--
Nitrate + Nitrite, total as N	mg/L	10	19	--
Copper, total recoverable	µg/L	11	--	17
Total Coliform Organisms	MPN/100mL	2.2 as 7-day median; 23 more than once/30-day period; 240 at any time		
Chlorpyrifos	µg/L	Note 2	--	Note 3
Diazinon	µg/L	Note 2	--	Note 3
Chronic Toxicity	TUc	1, as a 6-week median		

Table F-12 Notes:

1. **The pH effluent limits** are an instantaneous maximum and an instantaneous minimum.

2. **Average Monthly Effluent Limitation (AMEL**)

$$S_{AMEL} = \frac{C_{D\,M-AVG}}{0.079} + \frac{C_{C\,M-AVG}}{0.012} < 1.0$$

$C_{D\ M\text{-}AVG}$ = average monthly diazinon effluent concentration in µg/L.

$C_{C\ M\text{-}AVG}$ = average monthly chlorpyrifos effluent concentration in µg/L

3. **Average Weekly Effluent Limitation (AWEL)**

$$S_{AWEL} = \frac{C_{D\,W-AVG}}{0.14} + \frac{C_{C\,W-AVG}}{0.021} \leq 1.0$$

$C_{D\ W\text{-}AVG}$ = average weekly diazinon effluent concentration in µg/L
$C_{C\ W\text{-}AVG}$ = average weekly chlorpyrifos effluent concentration in µg/L

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute and chronic toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at section 3.1.20) The Basin Plan also states that, "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." Although the discharge has been consistently in compliance with the acute effluent limitations, the

Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

70%, minimum for any one bioassay; and
90%, median for any three consecutive bioassays.

b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page section 3.1.20). The table below is chronic WET testing performed by the Discharger from May 2016 through September 2020. This data was used to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

Table F-13. Whole Effluent Chronic Toxicity Testing Results

Date	Fathead Minnow Pimephales promelas Survival (TUc)	Fathead Minnow Pimephales promelas Growth (TUc)	Water Flea Ceriodaphnia dubia Survival (TUc)	Water Flea Ceriodaphnia dubia Growth (TUc)	Green Algae Selenastrum capricornutum Growth (TUc)
Second Quarter 2016	1	1	1	1	1
Third Quarter 2016	1	1	1	1	Greater than 1
Fourth Quarter 2016	1	1	1	1	1
First Quarter 2017	1	1	1	Greater than 1	1

Date	Fathead Minnow Pimephales promelas Survival (TUc)	Fathead Minnow Pimephales promelas Growth (TUc)	Water Flea Ceriodaphnia dubia Survival (TUc)	Water Flea Ceriodaphnia dubia Growth (TUc)	Green Algae Selenastrum capricornutum Growth (TUc)
Second Quarter 2017	1	1	1	1	1
Third Quarter 2017	1	1	1	1	1
Fourth Quarter 2017	1	1	1	1	1
First Quarter 2018	1	1	1	1	1
Second Quarter 2018	Greater than 1	1	1	1	1
Third Quarter 2018	1	1	1	Greater than 1	1
Fourth Quarter 2018	1	1	1	Greater than 1	1
First Quarter 2019	1	1	1	1	1
Second Quarter 2019	1	1	1	1	1
Third Quarter 2019	1	1	1	1	1
Fourth Quarter 2019	1	1	1	Greater than 1	1
First Quarter 2020	1	1	1	Greater than 1	1
Second Quarter 2020	1	1	1	Greater than 8	1
Third Quarter 2020	1	Greater than 1	1	1	1

i. **RPA.** No dilution has been granted for chronic whole effluent toxicity. Chronic toxicity testing results exceeding 1.3 chronic toxicity units (TUc) (as 100/NOEC) and a percent effect at 100 percent effluent exceeding 25 percent demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Based on chronic toxicity testing conducted between May 2016 and September 2020 the maximum chronic toxicity result was greater than 8 TUc on May 2020 with a percent effect of 25.4 percent, therefore, the discharge does have reasonable potential to cause or contribute to an instream exceedance of the Basin Plan's narrative toxicity objective.

ii. **WQBELs.** The effluent chronic toxicity shall not exceed 1.3 chronic toxicity units (as 100/NOEC) AND a percent effect of 25 percent at 100 percent effluent, for any endpoint as the median of up to three consecutive chronic toxicity tests within a 6-week period. Per the compliance schedule described in section VI.C.7.a of the Order, these final effluent limits are effective 1 June 2028. On 2 December 2020, the State Water Board adopted new statewide toxicity provisions through the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California that will be applicable to the Discharger after becoming effective, which requires approval by the Office of Administrative Law and U.S. EPA. Upon the effective date of the Water Quality Control Plan, the Central Valley Water Board intends to incorporate the new toxicity provisions at the next 5-year permit renewal.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

40 C.F.R section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. Pursuant to the exceptions to mass limitations provided in 40 CF.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations have been removed from this Order for ammonia, BOD_5, and TSS because both a flow discharge prohibition and concentration limits have been included for all three that are the equivalent of mass-based limits. Further rationale is provided in sections IV.D.3 and 4, below.

2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires average weekly and average monthly discharge limitations for POTW's unless impracticable. For copper, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for ammonia, copper, mercury, nitrate plus nitrite, and pH. The effluent limitations for these pollutants are less stringent than those in Order R5-2016-0001. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits "except in compliance with Section 303(d)(4)." CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

   i. For waters where standards are not attained, CWA section 303(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDL's or WLAs will assure the attainment of such water quality standards.

   ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

   The Western Pacific Interceptor Canal is considered an attainment water for ammonia, copper, mercury, nitrate plus nitrite, and pH because the receiving water is not listed as impaired on the 303(d) list for these constituents, per the State Water Board Order WQ 2008 0006, Berry Petroleum Company, Poso Creek/McVan Facility "The exceptions in section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list.". As discussed in section IV.D.4, below, removal or relaxation of the effluent limits complies with federal and state antidegradation requirements. Thus, removal or relaxation of the effluent limitations for ammonia, copper, mercury, nitrate plus nitrite, and pH from Order R5-2016-0001 meets the exception in CWA section 303(d)(4)(B).

b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

   As described further in section IV.C.3.a.i of this Fact Sheet, updated information that was not available at the time Order R5-2016-0001 was issued indicates that mercury does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Additionally, updated information that was not available at the time Order R5-2016-0001 was issued indicates that less stringent effluent limitations for ammonia, copper, and nitrate plus nitrite based on

available data, satisfy requirements in CWA section 402(o)(2). The updated information that supports the relaxation of effluent limitations for these constituents includes the following:

i. **Ammonia.** Effluent and receiving water monitoring data collected between March 2017 and February 2020 resulted in an AMEL and AWEL that is less stringent than the AMEL and AWEL in Order R5-2016-0001. The ammonia effluent limits are based on the current dataset for ammonia, pH, and temperature, and updated ammonia criteria. Calculation of the ammonia limits are detailed in section IV.C.3.b.i.

ii. **Copper.** Effluent and receiving water monitoring data collected between March 2017 and February 2020 resulted in an AMEL that is less stringent than the AMEL in Order R5-2016-0001. The copper effluent limits are based on the current dataset for hardness. Calculation of the copper limits are detailed in section IV.C.3.b.i.

iii. **Mercury.** The Western Pacific Interceptor Canal is not 303(d) listed. The State Water Board Mercury Provision accounts for bioaccumulation and sets water quality objectives per water body type and beneficial use designation. Monitoring data collected over the permit term for Order R5-2016-0001 indicates that mercury in the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the respective water quality objectives/criteria.

iv. **Nitrate plus Nitrite.** The average weekly effluent limitation (AWEL) for nitrate plus nitrite in this Order is less not stringent than in previous Order R5-2016-0001. Although the AWEL was calculated as a higher value, the WQBELs in both Orders are based on the same criteria (criteria is based State Water Board, Division of Drinking Water, Primary MCL for the protection of human health for nitrate plus nitrite). The reason for the change in the AWEL is due to a change in the variability of the effluent data for nitrate plus nitrite. The coefficient of variation for the recent effluent data is less than for the data used in the previous Order. Using the procedures for calculating WQBELs in Section 1.4 of the SIP, when an acute aquatic life criterion is used to calculate WQBELs, a lower coefficient of variation results in a less stringent AWEL, but is equally protective of the beneficial uses. The level of treatment needed to maintain compliance with the effluent limits remains the same. Consequently, the effluent limits are not less stringent than the previous permit, and there is no backsliding.

Thus, removal or relaxation of the effluent limitations for ammonia, copper, mercury, and nitrate plus nitrite from Order R5-2016-0001 is in accordance with CWA section 402(o)(2)(B)(i), which allows for the removal of effluent limitations based on information that was not available at the time of permit issuance.

c. **Flow.** Order R5-2016-0001 included flow as an effluent limit based on the Facility design flow. Compliance with the effluent limit for flow in Order R5-

2016-0001 was calculated annually based on the average daily flow collected over three consecutive dry weather months. Flow is not a pollutant and therefore has been changed from an effluent limit to a discharge prohibition in this Order, which is an equivalent level of regulation. This Order is not less stringent because compliance with flow as a discharge prohibition will be calculated the same way as the previous Order. Flow as a discharge prohibition adequately regulates the Facility, does not allow for an increase in the discharge of pollutants, and does not constitute backsliding.

4. Antidegradation Policies

Previous Order R5-2016-0001 evaluated compliance with antidegradation requirements for the flow and mass of pollutants associated with a Facility average dry weather flow rate of 5.1 million gallons per day. This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBEL's where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

This Order removes effluent limitations for mercury based on the Western Pacific Interceptor Canal not being 303(d) listed for mercury and the discharge not exceeding criteria established by the State Water Board's Mercury Provisions or other mercury criteria. This Order relaxes effluent limitations for ammonia, copper, and nitrate plus nitrite based on updated data that was not available at the time R5-2016-0001 was adopted. The removal and relaxation of WQBEL's for these parameters will not results in an increase in pollutants concentration or loading, a decrease in the level of treatment or control, or a reduction of water quality. Therefore, the Central Valley Water Board finds that the removal and relaxation of the effluent limitations does not result in an increase in pollutants or any additional degradation of the receiving water. Thus, the removal and relaxation of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

This Order also removes maximum daily and mass-based effluent limitations for BOD_5 and TSS based on 40 CFR parts 122.45 (d) and (f). The removal of maximum daily and mass-based effluent limits for BOD_5 and TSS will not result in a decrease in the level of treatment or control or a reduction in water quality.

Furthermore, both concentration-based AMEL's and AWEL's remain for BOD_5 and TSS, as well as an average dry weather flow prohibition that limits the amount of flow that can be discharged to the receiving water during dry weather months. The combination of concentration-based effluent limits and a flow prohibition in this Order are equivalent to mass-based effluent limitations,

which were redundant limits contained in previous Orders by multiplying the concentration-based effluent limits and permitted average dry weather flow by a conversion factor to determine the mass-based effluent limitations. The Central Valley Water Board finds that the removal of maximum daily and mass-based effluent limits for BOD_5 and TSS does not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal of maximum daily and mass-based effluent limits for BOD_5 and TSS is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

The permitted surface water discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBEL's for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5, pH, and TSS. Restrictions on BOD_5, pH, and TSS are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. For pH, both technology-based effluent limitations and water quality-based effluent limitations are applicable. The more stringent of these effluent limitations are implemented by this Order. These requirements include some limitations that are more stringent than required by the CWA.

WQBEL's have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBEL's were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May 2000. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Summary of Final Effluent Limitations
Discharge Point 001
Table F-14. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations	Basis
BOD_5	mg/L	AMEL 10 AWEL 15	TTC

Parameter	Units	Effluent Limitations	Basis
BOD_5	percent removal	Average Monthly greater than or equal to 85	CFR
TSS	mg/L	AMEL 10 AWEL 15	TTC
TSS	percent removal	Average Monthly greater than or equal to 85	CFR
pH	standard units	Instantaneous Min 6.5 Instantaneous Max 8.5	BP; PB
Copper	µg/L	AMEL 11 MDEL 17	CTR
Ammonia	mg/L	AMEL 1.6 AWEL 3.6	NAWQC
Nitrate plus Nitrite	mg/L	AMEL 10 AWEL 19	MCL
Electrical Conductivity at 25°Celsius	µmhos/cm	AAEL 875	PB; SECMCL
Chlorpyrifos	µg/L	(see Notes 4 and 5 below)	TMDL
Diazinon	µg/L	(see Notes 4 and 5 below)	TMDL
Total Coliform Organisms	MPN/100 mL	2.2 (see Note 6 below) 23 (see Note 7 below) Instantaneous Max 240	Title 22
Acute Toxicity	percent survival	70% minimum for any one bioassay; 90% median for any three consecutive bioassays	BP
Chronic Toxicity	TUc	1 TUc	BP

Table F-14 Notes:

1. **Abbreviations used in this Table are as follows:**

   TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.

   CFR – Based on secondary treatment standards contained in 40 CFR part 133.

   BP – Based on water quality objectives contained in the Basin Plan.

   PB – Basined on treatment plant performance.

   NAWQC – Based on U.S. EPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.

SECMCL – Based on the Secondary Maximum Contaminant Level.

TMDL – Based on impaired water body CWA section 303(d) listing and developing TMDL for mercury.

MCL – Based on the Primary Maximum Contaminant Level.

Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

2. **Electrical Conductivity @ 25 degrees Celsius.** Effluent limitation is applied as a calendar year annual average effluent limitation.
3. **Chronic Toxicity.** Effluent limitation is applied for any endpoint as the median of up to three consecutive chronic toxicity tests within a six-week period.
4. **Average Monthly Effluent Limitation (AMEL)**

$$S_{AMEL} = \frac{C_{D\,M-AVG}}{0.079} + \frac{C_{C\,M-AVG}}{0.012} < 1.0$$

$C_{D\,M-AVG}$ = average monthly diazinon effluent concentration in µg/L.

$C_{C\,M-AVG}$ = average monthly chlorpyrifos effluent concentration in µg/L

5. **Average Weekly Effluent Limitation (AWEL)**

$$S_{AWEL} = \frac{C_{D\,W-AVG}}{0.14} + \frac{C_{C\,W-AVG}}{0.021} \leq 1.0$$

$C_{D\,W-AVG}$ = average weekly diazinon effluent concentration in µg/L
$C_{C\,W-AVG}$ = average weekly chlorpyrifos effluent concentration in µg/L

6. Applied as a 7-day median effluent limitation.
7. Not to be exceeded more than once in any 30-day period.

E. Interim Effluent Limitations

1. Chronic WET

a. **Compliance Schedule.** The Discharger has complied with the application requirements in paragraph 4 of the State Water Board's Compliance Schedule Policy, and the Discharger's application demonstrates the need for additional time to implement actions to comply with the final effluent limitation for chronic WET. Therefore, a compliance schedule for compliance with the final effluent limitation for chronic WET is established in this Order.

A compliance schedule is necessary because the Discharger must implement actions to comply with the final effluent limitation for chronic WET.

The Discharger has made diligent efforts to quantify chronic WET in the discharge and the sources of chronic WET in the waste stream. The Discharger conducted quarterly chronic WET monitoring during the term of Order R5-2016-0001.

The compliance schedule is as short as possible. An interim performance-based limitation has been included in this Order and was determined as described in section IV.E.1.b, below. The interim effluent limitation for chronic WET is in effect until the final effluent limitation takes effect on 1 June 2028. The interim numeric effluent limitation for chronic WET and source control

measures will result in the highest discharge quality that can reasonably be achieved until final compliance is attained.

b. **Interim Requirements.** The Compliance Schedule Policy requires the Central Valley Water Board to establish interim requirements and dates for their achievement in the NPDES permit. Interim numeric effluent limitations are required for a compliance schedule longer than 1 year. Interim effluent limitations must be based on current treatment plant performance or pervious final permit limitations, whichever is more stringent. When feasible, interim limitations must correspond with final permit effluent limitations with respect to averaging bases (e.g., AMEL, MDEL, AWEL, etc.) for effluent limitations for which compliance protection is intended.

i. **Monitoring Requirements.** The Discharger shall perform quarterly chronic toxicity testing, concurrent with effluent ammonia sampling.

ii. **Chronic WET Interim Effluent Limitation.** The interim effluent limitation for chronic WET is based on Facility performance. Based on quarterly chronic WET testing conducted over the term of Order R5-2016-0001, the maximum observed result was greater than 8 TUc (as 100/NOEC) and a percent effect of 25.4 percent at 100 percent effluent. The Central Valley Water Board has established an interim effluent limitation for chronic WET of 16 TUc (as 100/NOEC) and a percent effect of 25 percent at 6.25 percent effluent.

iii. **Toxicity Reduction Evaluation (TRE) Requirements.** The Special Provision in section VI.B.2.a of the Order requires the Discharger to investigate the causes of and identify corrective actions to reduce or eliminate effluent toxicity.

The Central Valley Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitations can be achieved.

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the

Basin Plan. The Basin Plan states that "[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses." The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

a. **Bacteria**. On 7 August 2018 the State Water Board adopted Resolution No. 2018-0038 establishing Bacteria Provisions, which are specifically titled "Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and a Water Quality Standards Variance Policy" and "Amendment to the Water Quality Control Plan for Ocean Waters of California—Bacteria Provisions and a Water Quality Standards Variance Policy." The Bacteria Water Quality Objectives established in the Bacteria Provisions supersede any numeric water quality objective for bacteria for the REC-1 beneficial use contained in a water quality control plan before the effective date of the Bacteria Provisions.

   The Bacteria Water Quality Objectives correspond with the risk protection level of 32 illnesses per 1,000 recreators and use E. coli as the indicator of pathogens in freshwaters and enterococci as the indicator of pathogens in estuarine waters and ocean waters.

   The Bacteria Provisions provide that where a permit includes an effluent limitation or discharge requirement that is derived from a water quality objective or other guidance to control bacteria (for any beneficial use) that is more stringent than the Bacteria Water Quality Objective, the Bacteria Water Quality Objective would not be implemented in the permit. This Order includes effluent limitations and discharge requirements equivalent to the DDW Title 22 disinfected tertiary reclamation criteria that are more stringent than the Statewide Bacteria Water Quality Objective. Therefore, the Statewide Bacteria Water Quality Objective has not been implemented in this Order.

b. **Temperature.** Receiving water limitations based on the Basin Plan's temperature objective have not been carried forward in this Order. The State Water Board's precedential Order WQO 2002-0015 for the City of Vacaville's Easterly Wastewater Treatment Plant (Vacaville Order) determined that the Basin Plan temperature objective addresses temperatures over natural receiving water temperature, which do not apply in this case. The Vacaville Order found that "natural receiving water temperature" is defined in the State Water Board's Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (1975) (Thermal Plan). According to the Thermal Plan, "natural receiving water temperature" means "[t]he temperature of the receiving water at

locations, depths, and times which represent conditions unaffected by any elevated temperature waste discharge or irrigation return waters."

The flow upstream of the Facility discharge is often zero during dry periods of the year and highly variable during the rainy season only consisting of urban and agricultural runoff. Based on the Vacaville Order, a "natural receiving water temperature" cannot be determined since there is no base flow or headwaters for the Western Pacific Interceptor Canal.

The nearest downstream waterbody with natural flows where the Basin Plan's temperature objective applies is the Lower Bear River, which is 7 miles downstream of Discharge Point 001. The Western Pacific Interceptor Canal collects flows from Hutchinson Creek, Best Slough, and other storm water and agricultural runoff prior to meeting the Lower Bear River. Considering the long distance to the Lower Bear River, the shallow nature of the Western Pacific Interceptor Canal, and multiple downstream inputs, any elevated temperature discharges from the Facility will reach equilibrium with ambient temperatures prior to reaching the Lower Bear River. Thus, the Facility does not cause or contribute to an exceedance with the Basin Plan's temperature water quality in the Lower Bear River.

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibit taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity through a site-specific Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a new chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

b. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

c. **Ultraviolet Light (UV) Disinfection Operating Specifications.** UV system operating specifications are required to ensure that the UV system is operated to achieve the required pathogen removal. UV disinfection system specifications and monitoring and reporting requirements are required to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and wastewater flow through the UV disinfection system. The UV specifications in this Order are based on the National Water Research Institute (NWRI) and American Water Works

Association Research Foundation (AWWRF) “Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse” first published in December 2000 and revised as a Third Edition dated August 2012 (NWRI guidelines). If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation required by Title 22 for disinfected tertiary recycled water, this Order may be reopened to modify the UV specifications, in accordance with Reopener Provision VI.C.1.e.

d. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) web page: (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at section 3.1.20.). Based on whole effluent chronic toxicity testing performed by the Discharger from May 2016 through September 2020, the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan’s narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET monitoring to demonstrate compliance with the numeric chronic toxicity effluent limitation. If the discharge exceeds the chronic toxicity effluent limitation, this provision requires the Discharger either participate in an approved Toxicity Evaluation Study (TES) or conduct a site-specific Toxicity Reduction Evaluation (TRE).

A TES may be conducted in lieu of a TRE if the percent effect at 100 percent effluent is less than or equal to 50 percent. Determining the cause of toxicity can be challenging when the toxicity signal is low. Several Central Valley facilities with similar treatment systems have been experiencing intermittent low-level toxicity. The dischargers have not been successful identifying the cause of the toxicity because of the low toxicity signal and the intermittent nature of the toxicity. Due to these challenges, the Central Valley Clean Water Association (CVCWA), in collaboration

with staff from the Central Valley Water Board, has initiated a Special Study to Investigate Low Level Toxicity Indications (Group Toxicity Study). This Order allows the Discharger to participate in an approved TES, which may be conducted individually or as part of a coordinated group effort with other similar dischargers that are exhibiting toxicity. Although the current CVCWA Group Toxicity Study is related to low-level toxicity, participation in an approved TES is not limited to only low-level toxicity issues.

See the WET Monitoring Flow Chart (Figure F-3), below, for further clarification of the decision points for determining the need for TES/TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with U.S. EPA guidance. Numerous guidance documents are available, as identified below:

i. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.

ii. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.

iii. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, February 1991.

iv. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992.

v. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA/600/R-92/080, September 1993.

vi. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.

vii. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.

viii. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.

ix. Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991.

Figure F-3: WET Accelerated Monitoring Flow Chart

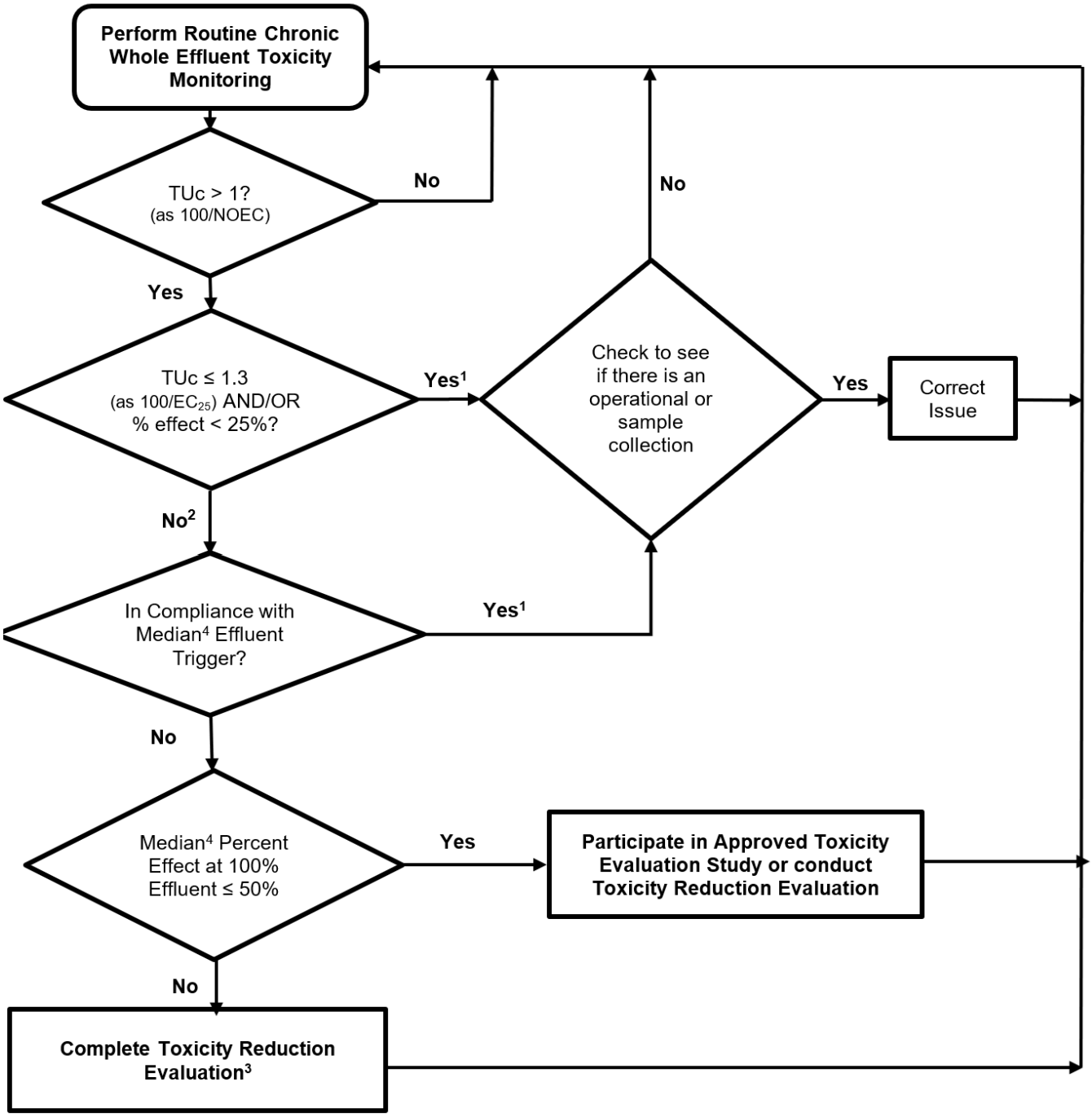


Figure F-3 Notes:

1. The Discharger may participate in an approved TES if the discharge has exceeded the chronic toxicity effluent limitation twice or more in the past 12-month period and the cause is not identified and/or addressed.
2. The Discharger may elect to take additional samples to determine the 3-sample median. The samples shall be collected at least one week apart and the final sample shall be within 6 weeks of the initial sample exhibiting toxicity.

3. The Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a TRE within the past 12 months and has been unsuccessful in identifying the toxicant.

4. See Compliance Determination section VII.F for procedures for calculating 6-week median.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan**. A Salinity Evaluation and Minimization Plan for salinity is required to be maintained in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the Western Pacific Interceptor Canal.

4. Construction, Operation, and Maintenance Specifications

a. **Filtration System Operating Specifications.** Turbidity is included as an operational specification as an indicator of the effectiveness of the filtration system for providing adequate disinfection. The tertiary treatment process utilized at this Facility is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity and could impact UV dosage. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity prior to disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU.

b. **Ultraviolet (UV) Disinfection System Operating Specifications.** This Order requires that wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this Order includes effluent limits for total coliform organisms, filtration system operating specifications, and UV disinfection system operating specifications. Compliance with total coliform effluent limits alone does not ensure that pathogens in the municipal wastewater have been deactivated by the UV disinfection system. Compliance with the effluent limits and the filtration system and UV disinfection operating specifications demonstrates compliance with the equivalency to Title 22 disinfection requirement.

The NWRI guidelines include UV operating specifications for compliance with Title 22. For water recycling in accordance with Title 22, the UV system shall be an approved system included in the Treatment Technology Report for Recycled Water, December 2009 (or a later version, as applicable) published by the DDW. The UV system shall also conform to all requirements and operating specifications of the NWRI

guidelines. A memorandum dated 1 November 2004 issued by DDW to Regional Water Board executive offices recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of lamp sleeves, as well as, include provisions that specify minimum delivered UV dose that must be maintained (per the NWRI Guidelines).

For granular media filtration, the NWRI Guidelines recommend a minimum hourly average UV dose of 100 mJ/cm^2. Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 100 mJ/cm^2 and a minimum hourly average UV transmittance of 55%, per the NWRI Guidelines. If the Discharger conducts a site-specific UV engineering study that demonstrates a lower UV dose meets a Title 22 equivalent virus removal, this Order may be reopened to revise the UV operating specifications accordingly.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs)

a. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this Order means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503. This Order does not regulate offsite use or disposal of biosolids, which are regulated instead under 40 C.F.R. part 503; administered by U.S. EPA. The Sludge/Biosolids Treatment or Discharge Specifications in this Order implement the California Water Code to ensure sludge/biosolids are properly handled onsite to prevent nuisance, protect public health, and protect groundwater quality.

6. Other Special Provisions

a. **Title 22, or Equivalent, Disinfection Requirements.** Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the State Water Board, Division of Drinking Water reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent.

7. Compliance Schedules

The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) requires the Central Valley Water Board to establish interim numeric effluent limitations in this Order for compliance schedules longer than 1 year. As discussed in section VI.B.7 of this Fact Sheet, the Central Valley Water Board is approving compliance schedules longer than 1 year for chronic WET. The Compliance Schedule Policy requires that interim

effluent limitations be based on current Facility performance or existing permit limitations, whichever is more stringent.

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). There are exceptions to this general rule. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or criteria, or in accordance with a TMDL. All compliance schedules must be as short as possible, and may not exceed 10 years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric effluent limitations for that constituent or parameter, interim requirements and dates toward achieving compliance, and compliance reporting within 14 days after each interim date. The Order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures.

In accordance with the Compliance Schedule Policy and 40 C.F.R. section 122.47, a discharger who seeks a compliance schedule must demonstrate additional time is necessary to implement actions to comply with a more stringent permit limitation. The Discharger must provide the following documentation as part of the application requirements:

a. Diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts;

b. Source control efforts are currently underway or completed, including compliance with any pollution prevention programs that have been established;

c. A proposed schedule for additional source control measures or waste treatment;

d. Data demonstrating current Facility performance to compare against existing permit effluent limits, as necessary to determine which is the more stringent interim, permit effluent limit to apply if a schedule of compliance is granted;

e. The highest discharge quality that can reasonably be achieved until final compliance is attained;

f. The proposed compliance schedule is as short as possible, given the type of facilities being constructed or programs being implemented, and industry experience with the time typically required to construct similar facilities or implement similar programs; and

g. Additional information and analyses to be determined by the Regional Water Board on a case-by-case basis.

Based on information submitted with the Notice of Intent, SMR's, and other miscellaneous submittals, it has been demonstrated to the satisfaction of the Central Valley Water Board that the Discharger needs time to implement actions to comply with the final effluent limitations for the chronic WET effluent limitation.

Chronic Whole Effluent Toxicity. The Discharger submitted a request and justification, dated 27 January 2021, for a compliance schedule for chronic WET. The compliance schedule justification included all items specified in subsections (a) through (g), above. This Order establishes a compliance schedule for the final WQBEL's for chronic WET, with compliance required by **1 June 2028.**

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements). The monitoring frequencies for flow (continuous), BOD_5, and TSS (once per week) have been retained from Order R5-2016-0001.

2. Influent monitoring of pH, electrical conductivity @ 25°C, and TDS was not retained from Order R5-2016-0001. The discharge did not exhibit reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.

2. Effluent monitoring frequencies and sample types for BOD_5 (once per week), TSS (once per week), ammonia (once per week), nitrate (once per month), nitrite (once per month), nitrate plus nitrite (once per month), chronic toxicity (once per quarter) and total coliform organisms (twice per week) have been retained from Order R5-2016-0001 to determine compliance with effluent limitations for these parameters.

3. Effluent monitoring frequencies and sample types for flow (continuous) and temperature (once per day) have been retained from Order R5-2016-0001.
4. Effluent monitoring frequencies for copper (once per month), pH (once per day), electrical conductivity @ 25°C (once per week), hardness (once per month), and acute toxicity (once per quarter) have been reduced from Order R5-2016-0001. This Order requires effluent monitoring for copper (once per quarter), pH (once per week), electrical conductivity @ 25°C (once per month), hardness (once per quarter), and acute toxicity (once per year). This Order retains the sample types for these parameters from Order R5-2016-0001.
5. Monitoring data collected over the previous permit term for mercury did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for these parameters have not been retained from Order R5-2016-0001.
6. Calculations for the percent reduction between the influent and effluent for BOD_5 and TSS shall be calculated once per month.
7. As discussed in Section IV.D of this Fact Sheet, the mass-based effluent limitations for ammonia, BOD_5, and TSS and maximum daily effluent limitations for BOD_5 and TSS have not been retained from Order R5-2016-0001.
8. Order R5-2016-0001 required regular effluent monitoring for TDS. This Order includes regular effluent monitoring of electrical conductivity. Therefore, regular effluent monitoring of TDS is not necessary to adequately evaluate the effluent for salinity. Effluent monitoring for TDS is required during the characterization monitoring. The Central Valley Water Board finds that removing regular effluent monitoring for TDS is not necessary to characterize the effluent.
9. Order R5-2016-0001 did not require regular effluent monitoring for dissolved organic carbon. This Order includes quarterly effluent monitoring for dissolved organic carbon to calculate site-specific freshwater aluminum criteria in accordance with the 2018 U.S. EPA NAWQC for aluminum in freshwater for the next permit renewal.
10. A Basin Plan Amendment and TMDL for the Control of Pyrethroid Pesticide Discharges in the Sacramento and San Joaquin River basins (Resolution R5-2017-0057) was approved by the Central Valley Water Board on 8 June 2017 and is now effective. The Pyrethroids Control Program established by Resolution R5-2017-0057 requires monitoring by domestic and municipal wastewater dischargers discharging at least 1 MGD for the concentrations of pyrethroid pesticides, total and dissolved organic carbon in the water column, and water column toxicity testing. Monitoring is required to evaluate the potential impacts of discharges of pyrethroid pesticides to receiving waters.
11. This Order establishes annual effluent monitoring requirements for chlorpyrifos and diazinon in order to determine compliance with the WQBEL's for these parameters based on the TMDL for chlorpyrifos and diazinon for the Control of Diazinon and Chlorpyrifos Discharges.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity**. Annual 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity**. Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the numeric chronic toxicity effluent limitation.

D. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

b. Upstream receiving water monitoring for temperature has not been continued in this Order because the Western Pacific Interceptor Canal does not have a “natural receiving water temperature” and the temperature receiving water limitation was removed, as discussed in section V.A.1.b. Downstream receiving water temperature monitoring is continued, because it is used to develop ammonia criteria that vary based on temperature and pH.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. **UV Disinfection System Monitoring**

   UV system monitoring and reporting are required to ensure that the UV system is operated to adequately inactivate pathogens in the wastewater. UV disinfection system monitoring is imposed to achieve equivalency to requirements established by the DDW), and the NWRI, Guidelines.

2. **Pond Monitoring**

   Pond monitoring is required to ensure proper operation of the storage pond. Weekly monitoring for freeboard, pH, electrical conductivity, and dissolved oxygen and daily monitoring for odors is included in this Order.

3. **Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program**

   Under the authority of section 308 of the CWA (33 U.S.C. section 1318), U.S. EPA requires all dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S.EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from their own laboratories or their contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory’s ability to analyze wastewater samples to produce quality data that

ensure the integrity of the NPDES Program. The Discharger shall submit annually the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Treatment Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Persons

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through posting on the Central Valley Waterboard's website on **24 February 2021** and through posting by the Discharger at City Hall on **1 March 2021** and at the Facility entrance on **1 March 2021**.

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/)

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on **22 March 2021**.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date: 22 April 2021
Time: 8:30 a.m.
Location: Online Meeting

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

Or by email at waterqualitypetitions@waterboards.ca.gov

Instructions on how to file a petition for review (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml) are available on the Internet.

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (916) 464-3291.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Armando Martinez at (916) 464-4617.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Abbreviations used in this table:

MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-Specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
ND = Non-detect
RP= Reasonable Potential

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	RP
Ammonia (as N)	mg/L	2.9	--	5.02	5.02	8.67	--	--	--	--	Yes
Nitrate plus Nitrite (as N)	mg/L	4	--	10	--	--	--	--	--	10	Yes
Mercury, total	µg/L	0.0015	--	0.012	--	--	--	--	--	0.012	No
Electrical Conductivity at 25 Celsius	µmhos/ cm	697	--	1,600	--	--	--	--	--	1,600	No
Copper	µg/L	2.8	6.2	12	18	12	--	--	--	--	Yes (Background)
Lead	µg/L	ND (<0.03)	1.3	3.2	82	3.2	--	--	--	--	No (SIP Step 6)

General Note: All inorganic concentrations are given as a total recoverable.

Copper background concentration exceeded the receiving water CCC.

ATTACHMENT H – CALCULATION OF WQBEL'S

HUMAN HEALTH WQBEL'S CALCULATIONS

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV	Dilution Factor	MDEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
Nitrate plus Nitrite, Total (as N)	mg/L	10	--	0.8	--	--	1.8	10	--	19

1. Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.
2. Calculated by setting the LTA equal to the Secondary MCL of 200 µg/L and using the AMEL multiplier to set the AMEL. The AWEL was calculated from the AMEL using the MDEL/AMEL multiplier. (Table 2 of the SIP)
3. Calculated by setting the LTA equal to the Secondary MCL of 200 µg/L and using the AMEL multiplier to set the AMEL. The AWEL was calculated from the AMEL using the MDEL/AMEL multiplier. (Table 2 of the SIP)
4. Maximum background concentration.

Abbreviations used in this table:

CV = Coefficient of Variation
MDEL = Maximum Daily Effluent Limitation
AMEL = Average Monthly Effluent Limitation
MDEL = Maximum Daily Effluent Limitation
AWEL = Average Weekly Effluent Limitation

ATTACHMENT H – CALCULATION OF WQBEL'S

AQUATIC LIFE WQBEL'S CALCULATIONS

Parameter	Units	CMC Criteria	CCC Criteria	B	Effluent CV	CMC Dilution Factor	CCC Dilution Factor	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL	AWEL	MDEL
Ammonia Nitrogen, Total (as N)	mg/L	5.02	8.67	--	2.0	--	--	0.12	0.58	0.71	1.75	2.8	6.1	--	1.6	3.6	--
Copper	µg/L	3.2	2.5	6.2	0.4	--	--	0.46	8.2	0.66	7.7	10	--	2.2	11	--	17

1. Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.
2. Average Monthly Effluent Limitations are calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
3. Average Weekly Effluent Limitations are calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
4. Maximum Daily Effluent Limitations are calculated according to section 1.4 of the SIP using a 99th percentile occurrence probability

Abbreviations used in this table:

B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
CV = Coefficient of Variation (established in accordance with section 1.4 of the SIP)
ECA Effluent Concentration Allowance
LTA Aquatic Life Calculations – Long-Term Average
MDEL = Maximum Daily Effluent Limitation
AMEL = Average Monthly Effluent Limitation
MDEL = Maximum Daily Effluent Limitation
AWEL = Average Weekly Effluent Limitation

Appendix B
South Yuba County Annexation Report

Incremental Oversizing of the South County Sewer Pipeline Project to Prevent Sewer System Overflows

Appendix C

PPS0114201350SAC | Draft

January 23, 2020

Olivehurst Public Utility District

MHM, Inc.



Incremental Oversizing of the South County Sewer Pipeline Project to Prevent Sewer System Overflows

Project No:	W8Y02500.A.PN.OE.SY.04
Document Title:	Appendix C
Document No.:	PPS0114201350SAC
Revision:	Draft
Date:	January 23, 2020
Client Name:	MHM, Inc.
Project Manager:	Kevin Kennedy
Author:	Steve DeCou
File Name:	OPUD_SouthCntySwr_AppC_Draft_20200123.docx

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C1. Olivehurst Public Utility District—Incremental Oversizing of the South County Sewer Pipeline Project to Prevent Sewer System Overflows

As a supplemental task to the South County Pipeline Evaluation, the MHM/Jacobs team evaluated the potential to reduce sewer system overflows (SSOs) in the Olivehurst Public Utility District (OPUD, or District) collection system. This supplemental task was contingent upon selection of the South County Pipeline route along McGowan Parkway. The McGowan pipeline route is near known SSO locations and would therefore allow transfer of some wastewater flow from the existing OPUD collection system into an incrementally oversized South County Pipeline. The following discussion examines relevant background and findings from OPUD's 2010 Sewer System Management Plan and capacity evaluation, and how recommended improvements to the collection system and wastewater treatment plant (WWTP) could be implemented in conjunction with the new South County Pipeline Project.

C1.1 Background

In May 2010, Jacobs (formerly CH2M) engineers conducted a sewer system capacity evaluation for OPUD as part of its Sewer System Management Plan. The evaluation included flow monitoring in the old Olivehurst sewer collection system area along with rainfall data collection during that monitoring period. The evaluation attempted to correlate rainfall and sewer flow rates (called rainfall-dependent infiltration/inflow, or RDII) in the collection system, and it compiled flow rates for the design storm. During the monitoring period, only a relatively small storm event occurred, which had been preceded by dry conditions. The evaluation report noted that this event scenario may not reflect actual potential RDII in the system. However, it is impossible to accurately predict this unknown difference. Therefore, the evaluation was compelled to assume a "standard" relationship between the observed storm and the design storm that has been found to exist in most other communities.

Comparison of design storm projections with the carrying capacity of the collection system in old Olivehurst revealed that several pipelines and pumping stations in the evaluation area have insufficient capacity to convey the design flow rates. This resulted in surcharging of the collection system (hydraulic grade lines that were above the top of the pipelines) and in potential SSOs that would allow surcharged sewers to displace sewage from the pipelines and onto the ground surface.

Recommendations provided by the 2010 Sewer Capacity Evaluation Report to alleviate this condition near the proposed South County Sewer Pipeline are shown in Figure C-1 (derived from Figure 5.10 of the 2010 report).

Table C-1 summarizes the 2010 recommended SSO improvements in the area of the South County Sewer Pipeline for Phase 1 only (not all recommended SSO improvements are included). Table C-1 provides the recommended parallel pipeline size and not the pipe replacement size for individual pipe reaches.

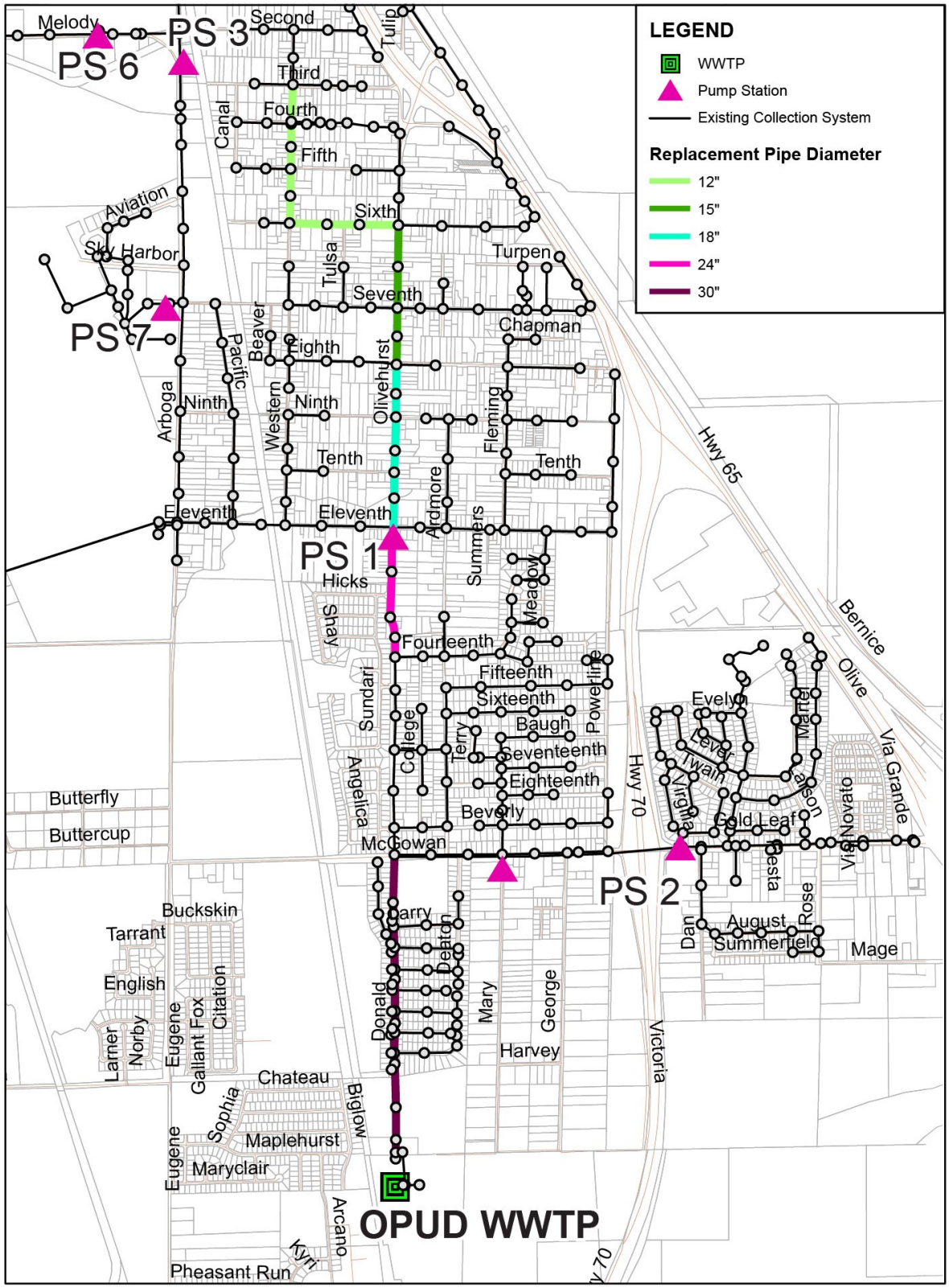


Figure C-1. Previously Recommended Pipeline Improvements for Comprehensive Sewer System Overflow Reduction
(Source: 2010 Sewer Capacity Evaluation Report)

Table C-1. Previously Recommended 2010 Phase 1 Improvements near South County Sewer Pipeline for SSO Relief in Old Olivehurst
Per 2010 Sewer Capacity Evaluation Report

Existing Project Element	2010 Recommended Improvement
Donald Drive between McGowan and the WWTP	Construct new 30-inch-diameter/3,600 feet + 800 feet for wetlands avoidance (total length 4,400 feet)
Olivehurst Ave. between Fourteenth and Eleventh	Construct new 24-inch-diameter gravity pipeline/1,600 feet
PS No. 1 (at Eleventh and Olivehurst Ave)	Increase capacity from 1.75 mgd to 4.5 mgd

mgd = million gallons per day
PS = pump station

After completion of the 2010 Sewer Capacity Evaluation Report, District staff conducted TV inspections of several OPUD collection system pipelines to document pipe integrity and repair existing defects. The force main pipeline between PS No. 2 and Donald Drive, which consists of approximately 3,420 feet of 8-inch-diameter pipeline, was found to be defective and needing replacement. Now, the South County Sewer Pipeline Project provides an opportunity to avoid costly replacement of the Donald Drive force main, because oversizing the new South County pipeline to accommodate the Donald Drive pipeline capacity could result in significant cost savings.

When improvements increase the collection system capacity to relieve SSO potential in areas of highest surcharging, the peak flows into the wastewater treatment plant (WWTP) will increase. The OPUD WWTP is already taxed during periods of rainfall and RDII, and it cannot allow additional flow into the WWTP without improvements. Additionally, even though the South County Sewer Pipeline service area will not be at buildout with the construction of the proposed pipeline system, there will be increased demand placed on the WWTP at start-up of that system. The combination of SSO relief and flows from the new South County Sewer Pipeline will require wet-weather improvements to the WWTP that are in addition to the collection system improvements described in this appendix.

OPUD, as part of its Sewer System Management Plan, made a commitment to the State of California that it would initiate a first phase of SSO reduction in calendar year 2020. Although that initial phase of improvement might not result in the elimination of all SSOs in the community, it would be a step in the appropriate direction for comprehensive SSO reduction.

Both collection system improvements for SSO relief and WWTP wet-weather flow improvements are discussed in greater detail below.

C1.2 Collection System Improvements

The 2010 Sewer Capacity Report identified PS No. 1 as a current system bottleneck that cannot accommodate flow during peak rainfall events. That bottleneck causes flows upstream of the pump station to back up, with resultant surcharging and SSOs. As recommended in the 2010 evaluation, the capacity of PS No. 1 needs to be increased from its current firm capacity of 1.75 mgd to 4.5 mgd (an increase of 2.75 mgd).

The increased PS No. 1 capacity will cause the existing pipeline downstream of that location (between 11th Street and 14th Street on Olivehurst Avenue) to be surcharged unless additional conveyance capacity is added in this reach. A 12-inch-diameter force main from the PS No. 1 site to 14th Street will resolve that capacity deficit. The

pipeline immediately downstream of 14th Street, all the way to McGowan Parkway, has sufficient capacity to handle the increased PS No. 1 capacity.

However, the 2010 capacity evaluation showed that the pipeline from McGowan Parkway and Donald Avenue to the WWTP will become surcharged when more flow from PS No. 1 is sent to this sewer node. The 2010 recommendation was to add capacity to that pipeline reach. As noted in Table 1, that improvement would include construction of a new 30-inch-diameter pipeline for the 3,600 feet between McGowan Parkway and the WWTP. A wetlands area just to the north of the existing plant headworks would require another 800 feet of pipeline added to the previously described 3,600 feet to avoid the wetlands area. Because the South County Sewer Pipeline is proposed to be routed along McGowan Parkway and turn south on Mary Avenue (and then to the WWTP), it provides a new proposed option that would save ratepayers considerable pipeline construction dollars.

The proposed approach to alleviate surcharging on the Donald Avenue pipeline reach is to remove a portion of the flow that comes from the east into the pipeline at McGowan and Donald. This can be accomplished by removing the flow that comes from PS No. 2 into the Donald Avenue pipeline (see Figure C-1 for PS No. 2 location). PS No. 2 sends a peak flow of approximately 1.4 mgd to the existing 24-inch Donald Avenue pipeline. Additionally, an 8-inch collector sewer pipeline in McGowan Parkway flows westerly from near Highway 70 to Donald Avenue. If the sewage flow into PS No. 2 is diverted into the new South County Sewer Pump Station at Dan Avenue (see the MHM report), two things will occur:

1) The flow from the PS No. 2 service area can be directed away from the overloaded pipeline on Donald Avenue.
2) The need to replace the deteriorated 8-inch force main from PS No. 2 to Donald Avenue will be obviated. This will require that the South County Pipeline be increased in size, but this incremental upsizing is considerably less expensive than replacing the 3,420 feet of force main.

In addition to diverting flow from PS No. 2 from the Donald Avenue pipeline, surcharging in the existing 8-inch collector sewer in McGowan Parkway can also be diverted into the new pump station at Mary and McGowan during periods of peak flow in the system if the following criteria are employed:

- Given that the invert elevation of the 8-inch collector sewer at the intersection of Mary and McGowan is approximately 50.1 feet, it will be possible to divert peak flows from this collector sewer into a new SSO Pump Station at Mary and McGowan if an overflow weir on the 8-inch collector pipeline is established at this location.
- If the overflow weir is established at approximately elevation 50.5 feet, then raw sewage will normally flow westerly to the Donald Avenue pipeline during dry weather conditions when the hydraulic grade line at Mary and McGowan is below 50.5 feet in height. During peak flow conditions, however, the hydraulic grade line will increase as surcharging in the system begins (even as far away as Donald and McGowan). That surcharging will cause a backwater in the 8-inch collector pipeline to exist and the higher hydraulic grade line will result in a diversion of peak flow into the new SSO Pump Station at Mary and McGowan. This will allow for nominal and safe surcharging, with up to approximately 1 mgd of flow to be diverted to the new SSO Pump Station.
- Although incremental oversizing of the South County Sewer Pipeline from Mary and McGowan will be necessary, this plan (coupled with the plan to divert PS No. 2 flows to the South County Pipeline) will obviate the need for construction of 4,400 feet of new parallel pipeline in Donald Avenue.

The currently recommended improvements to the collection system for the initial phase (Phase 1) of SSO reduction work in old Olivehurst are shown in Figure C-2.

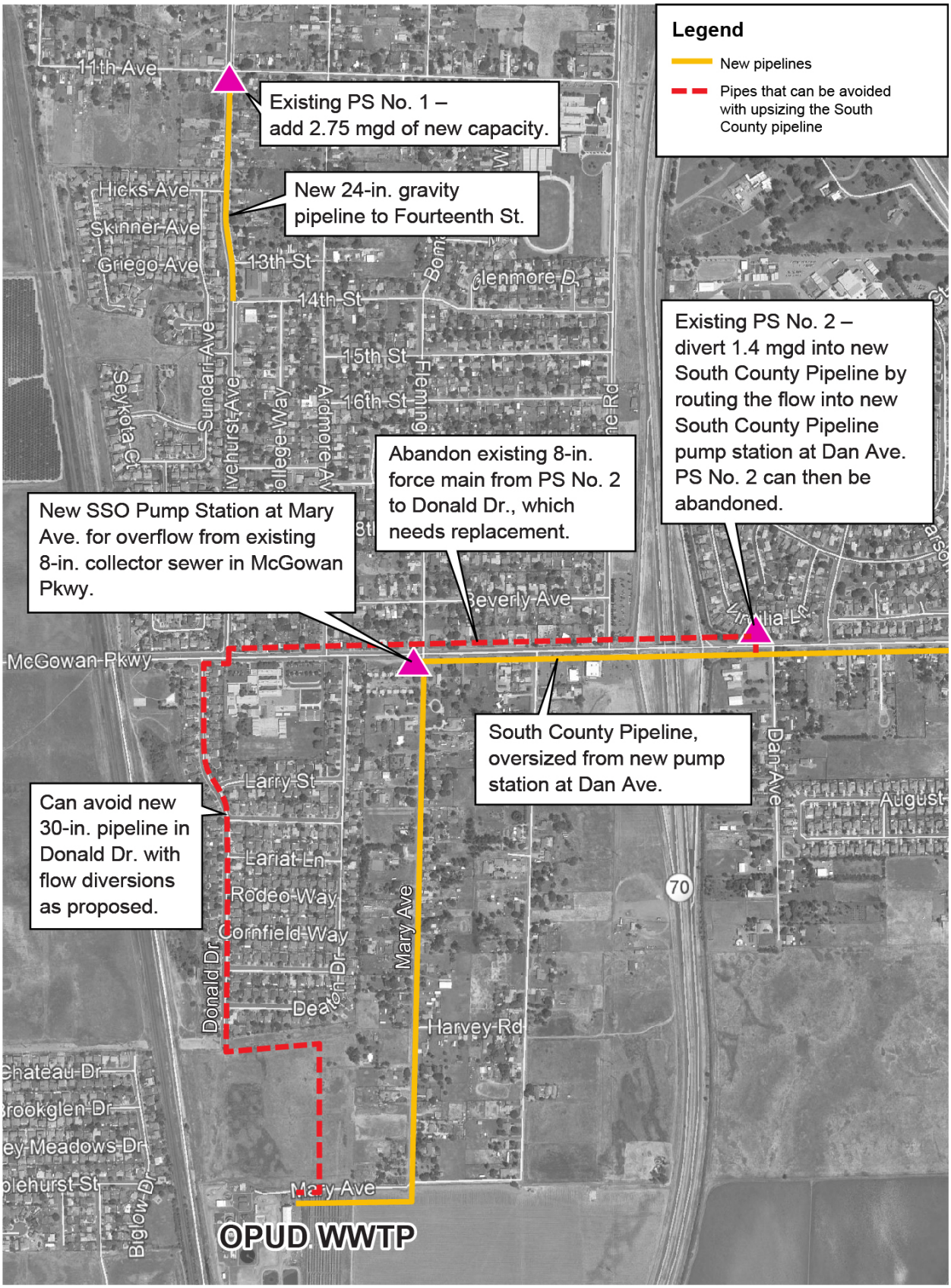


Figure C-2. Currently Recommended Phase 1 Collection System Improvements for SSO Reduction

In addition to these pipeline improvements, it is also proposed that instrumentation be added to the collection system to assist in better managing RDII in the system. If water elevation sensors are installed at critical locations both upstream and downstream of PS No. 1, then the output of PS No. 1 can be adjusted to maximize collection system capacity and reduce the potential for future SSOs. RDII has the potential to exceed the design values noted in the 2010 Sewer Capacity Evaluation Report because peak storms were not present (and they were therefore not measured) during the flow monitoring period for the 2010 evaluation. Some non-linear increase in peak flow rates into the WWTP are noted by District staff when large storms are ongoing. It is believed that a portion of this flow is related to an inadequate storm drainage system in the old Olivehurst area, and storm water flows enter the sewer collection system as water begins to pond; that level of storm was not encountered during flow monitoring in 2010, and therefore the ability to predict the RDII from such an event was not possible.

The proposed collection system instrumentation would measure water surface elevations in the collection system pipelines both upstream and downstream of PS No. 1. If the water surface elevation upstream of PS No. 1 is such that a sewer overflow is imminent, then a signal would be sent to the pump station to increase its pumping capacity; if the downstream sensor finds that the water surface at that location approaching an overflow condition, then the pump station pumping rate would be slightly decreased. The goal is to maximize the available collection system capacity and minimize SSO potential.

Comparative costs for the proposed Phase 1 SSO reduction improvements, both with and without the South County Sewer Pipeline oversizing, are shown in Table C-2.

Table C-2. Phase 1 SSO Reduction Collection System Comparative Total Project Costs with and without South County Sewer Pipeline

Project Element without South County Sewer Project	Project Element with South County Sewer Project	Costs without South County Sewer Project	Costs with South County Sewer Project
4,400 feet of 30-inch sewer on Donald Drive between McGowan and the WWTP	Incrementally oversize South County pipeline from PS No. 2 to WWTP (6,800 feet of force main on Mary to WWTP from 18 to 20 inch diameter)	$2,376,000	$245,000
Replacement of 3,420 feet of 8-inch force main from PS No. 2 to Donald Drive	Overflow diversion manhole for existing 8-inch sewer collector at Mary and McGowan, plus new 1 mgd SSO PS at Mary and McGowan	$492,000	$685,000
1,600 feet of 24-inch gravity pipeline on Olivehurst Ave. between 14th and 11th	Same with or without South County Sewer Pipeline	$691,000	$691,000
Increase size of PS No. 1 (at Eleventh and Olivehurst Ave.) from 1.75 to 4.5 mgd (new PS recommended)	Same with or without South County Sewer Pipeline	$1,885,000	$1,885,000
Total collection system SSO reduction costs	Total collection system SSO reduction costs	$5,444,000	$3,506,000

Table C-2 shows that the cost savings for Phase 1 SSO collection system reduction improvements are substantial if the SSO reduction work is combined with the South County Sewer Pipeline Project. For those improvements

that include capacity for both the South County Pipeline system and SSO reduction, cost allocations in Table C-2 have been prepared using proportional flow estimates. For example, if the South County peak flow rate before SSO flow rates are included were 7 mgd, and the flow rate from SSO improvements was 3 mgd, then 70% of the costs are allocated to South County improvements, and 30% of the costs are allocated to SSO improvements.

C1.3 WWTP Peak Flow Improvements

Because the WWTP is currently constrained by RDII during peak storms, and both the SSO reduction plan and the South County Sewer Pipeline Project will increase peak flow rates into the plant during winter storm period, some method of handling those increased flows needs to be implemented.

Plant staff have been working with the Regional Water Quality Control Board to seek approval to construct an equalization basin that would take secondary effluent (flow from the secondary clarifiers in the plant) and send that clarified and treated water to a basin. This would allow wastewater to be stored until the storm passes and RDII is reduced. The diverted flows will not go to the tertiary plant systems (the tertiary unit processes at the OPUD WWTP include filters and UV disinfection) until after the storm subsides and influent wastewater flows decrease. Because the tertiary system is the current plant bottleneck (has the least capacity), this proposed plan by District staff has significant merit. It is also the case that equalization basin storage is much cheaper than an expansion of the constrained plant systems. Furthermore, the plant currently has a much smaller secondary effluent equalization basin that has successfully operated since the plant was expanded in 2006.

The wastewater master plan completed in 2016 also proposed an equalization basin, although primary sewage rather than secondary effluent was proposed to go to the equalization basin. A new primary clarifier would be required to convey primary effluent to the equalization basin, and a new secondary clarifier would be required if secondary effluent is sent to the new basin. This appendix evaluates both primary and secondary effluent diversion to a new equalization basin.

In addition to a new equalization basin and associated equipment, the increased peak flow rates into the plant for SSO reduction to be accomplished will require some additional raw sewage pumps in the plant headworks equal in size to the increased capacity at PS No. 1. No options exist for this need, and an additional raw sewage pump with a minimum capacity of 2.75 mgd will be added as part of the SSO reduction improvements.

Table C-3 includes an assessment of the advantages and disadvantages of sending primary versus secondary effluent to the equalization basin.

Table C-3. Equalization Basin Options Considered for SSO Relief

Option	Overview/Project Elements	Advantages	Disadvantages
Storing Primary Effluent	This option would send raw sewage in excess of the tertiary system's capacity to a new primary clarifier, where heavy solids and floatable material would be removed. The primary clarifier effluent would then be routed to the new equalization basin during a major storm event. After the storm subsides, the basin contents would be routed back to the plant headworks and be sent into the treatment plant.	▪ Allows high RDII flows to bypass the entire treatment plant (except for a new primary clarifier). Slightly less expensive than the secondary equalization basin storage option.	▪ Primary effluent has odor and the plant is near residential neighbors. ▪ Even with a primary clarifier, solids will enter the equalization basin, and cleanup of the basin after the storm subsides will be onerous. ▪ High-pressure water systems (like fire hoses) will be necessary for the significant clean-up operation.
Storing Secondary Effluent	This option would send raw sewage to the secondary portion of the plant (oxidation ditch process and then to the secondary clarifiers). Because the plant has excess secondary treatment capacity in the oxidation ditch system at this time, this option is feasible, even though a new secondary clarifier is required. The overtaxed tertiary system would not be subjected to the higher flow rates that are sent to the equalization basin, saving ratepayer dollars for expansion of that system.	▪ This option would allow high RDII flows to bypass the tertiary unit processes of the plant, thereby saving construction dollars for expansion of that system. ▪ Secondary effluent is well treated, reducing odor potential and later basin clean up after the storm subsides. ▪ A new secondary clarifier will provide backup to the existing secondary clarifiers. ▪ Because the stored secondary effluent has already been subjected to secondary treatment, basin contents can be sent directly to the tertiary unit processes in the plant, and not back to the headworks. ▪ Can be converted to a primary effluent equalization basin in the future ▪ The plant has a much smaller secondary effluent equalization basin that has been successfully operated for almost 15 years.	▪ Slightly higher construction cost for this option ▪ As dry weather flow rates increase over time, this option will not obviate the need for new secondary treatment processes like a primary effluent basin would. Prior to the installation of new secondary capacity, the option of converting the equalization basin to a primary effluent basin should be evaluated (see the last item in the Advantages column).

Table C-4 provides information on the anticipated costs for the two equalization basin options under consideration.

Table C-4. Primary and Secondary Effluent Equalization Basin Capital Costs

Project Elements		Primary Equalization	Secondary Equalization
Additional raw sewage pumps		$146,322	$146,322
New primary influent splitter box		$351,172	
New primary clarifier		$515,052	
New primary solids pump station		$257,526	
New flow equalization basin and pump station		$2,177,266	$2,177,266
New Secondary Clarifier No. 4			$1,082,780
New RAS/WAS pump station			$311,372
New site civil, site electrical, and yard piping allowance	25%	$861,834	$929,435
Subtotal, direct costs		$4,309,172	$4,647,175
Contractor general conditions/administrative costs	5%	$215,459	$232,359
Mob/demob	3%	$129,275	$139,415
Contractor overhead	10%	$430,917	$464,717
Contractor profit	6%	$258,550	$278,830
Bonds, insurance, and permits	2%	$86,183	$92,943
Subtotal, contractor costs with markups		$5,429,556	$5,855,440
Contingency	30%	$1,628,867	$1,756,632
Anticipated construction costs		$7,058,423	$7,612,072
Engineering, Legal, Administration, CM, and SDC	25%	$1,764,606	$1,903,018
Total project cost estimate for treatment plant improvements		**$8,823,000**	**$9,515,000**

Source: 2016 Master Plan for the Olivehurst Wastewater Treatment Plant by Jacobs (formerly CH2M), updated to mid-point of construction for South County Sewer Pipeline Project

Because both equalization basin options are close in total project cost, it is recommended that the Secondary Effluent Equalization Basin Option be implemented at this time. As noted above, this can be converted to a primary effluent basin when growth requires the construction of additional secondary treatment capacity (at which time it is assumed that primary clarifiers will also be added to the plant). Figure C-3 shows the location of the proposed facilities at the WWTP to accommodate the increased flow rate from both the South County Sewer Pipeline Project and the SSO reduction recommendations.

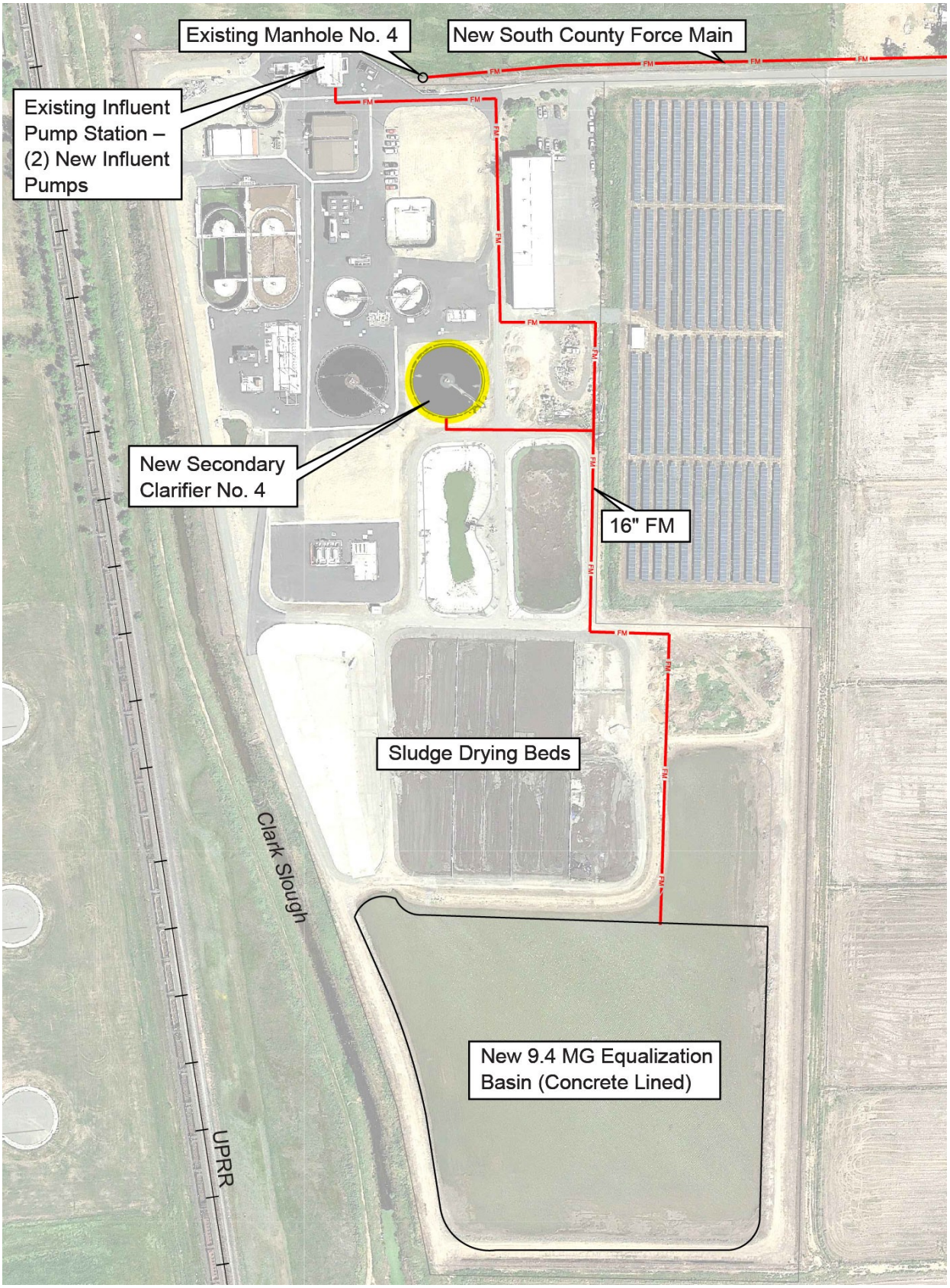


Figure C-3. Recommended WWTP Improvements

A preliminary design report is recommended to finalize sizing requirements for the required facilities. One additional project element that should be considered during the preliminary design phase is additional tertiary filters. Plant staff report that the existing filters have limited capacity, likely due to the colloidal material that enters the plant during rainfall events (clay particles from the soil around the collection system pipelines). This colloidal material is difficult to remove in the treatment processes in front of the filters, and when it reaches the filters it builds up and "blinds" the filters. Additional filter capacity can eliminate this critical link and provide additional peak wet-weather capacity to the wastewater treatment plant.

All costs for WWTP improvements for the SSO Reduction and South County Sewer Project increased flows and sewer loads are already captured in OPUD's treatment plant and collection system capital connection fees. Existing collection system capital funds would be used for the costs related to collection system pipelines and pumping stations, and the wastewater capital fund would be used for improvements at the plant (the new users in the South County Sewer service area will be paying a capital connection fee that includes their proportionate share of the treatment plant and collection system improvements, so no additional costs should be assessed to those new users for any of the costs identified in this appendix).

All proposed WWTP improvements in Table C-3 are included as future requirements in the 2016 Wastewater Master Plan and are therefore currently planned improvements to be constructed as the demand increases; the South County Sewer Pipeline service area and the SSO reduction work constitute demand increases that define the need for those previously approved project elements.

C1.4 Summary of Recommended Improvements

Recommended improvements, as discussed above, are as shown in Table C-5. As noted, the costs for the recommended improvements have been included in the connection fees established by the District, and no additional fee element is proposed (other than the assessment of a capital connection fees for each new user).

Table C-5. Total Project Costs for Recommended Improvements for SSO Reduction and South County Sewer Project Flow Attenuation

Project Description	Estimated Total Project Cost*
Incrementally oversize South County pipeline from PS No. 2 to WWTP (6,800 feet of force main on Mary Ave. to WWTP from 18 to 20 inch diameter)	$245,000
Overflow diversion manhole for existing 8-inch sewer collector at Mary Ave. and McGowan Pkwy., plus new 1 mgd SSO PS at Mary and McGowan	$685,000
1,600 feet of 24-inch gravity pipeline on Olivehurst Ave. between 14th and 11th	$691,000
Increase size of PS No. 1 (at 11th and Olivehurst Ave.) from 1.75 to 4.5 mgd (new pump station is recommended)	$1,885,000
Improvements at the OPUD WWTP (see Table C-4 for full list—does not include additional filters that may be added after design report is completed)	$9,515,000
Total Project Costs for SSO Reduction and Peak Flow Attenuation for the South County Sewer Pipeline Project	$13,021,000

*Costs are escalated to mid-point of anticipated construction and include all capital requirements for implementation.

Appendix C
Capacity Purchase Agreement – Not Used

Appendix D
Wastewater Treatment and Operations Agreement – Not Used

Appendix E
Phase 1 Environmental Site Assessment for New OPUD WWTP Parcel

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bklousner@e-planningpartners.com

(916) 852-8830
(916) 852-8891 fax

Date: 1/16/25

To: Kevin Kennedy
Steve DeCou

From: Bob Klousner

Subject: OPUD 30-Acre Parcel of Interest – Characterization of Environmental Conditions

The Olivehurst Public Utilities District's (OPUD) and Yuba County are considering the acquisition of a 30-acre parcel adjacent to OPUD's existing Wastewater Treatment Plant. This parcel would be used to expand both the WWTP and stormwater management facilities. Prior to acquisition of the parcel, Planning Partners and Padre Associates have been requested to characterize select environmental conditions on the area to be acquired. Studies completed for this characterization include:

- Biological Resources,
- Cultural Resources, and
- Phase I Environmental Site Assessment

Please refer to these studies for detailed discussions of our findings. Summarily, our initial evaluations identified the following:

Biological Resources:
The parcel of interest is located in an orchard currently planted in almond trees. There are no potentially jurisdictional waters or wetlands within the study area; however, there are aquatic resource features adjacent to the parcel. The 30-acre area of interest is highly disturbed by agricultural activity associated with current operations in almond cultivation. The property lacks suitable habitat for the majority of the special-status species identified in our literature review and outlined in Table 1 of the Biological Resources Review Memo; however, wetland and riparian habitat occurs in adjoining areas, which may attract special-status species to the area. Special-status species that may occur at or near the 30-acre site include vernal pool branchiopods (fairy shrimp and tadpole shrimp), giant gartersnake, burrowing owl, and Swainson's hawk. Identification of these special status species would be

similar to those encountered on OPUD's South County Infrastructure Project, and would require future studies to determine presence or absence of these special status species. If such species were identified on site, mitigation would be similar to that identified for the South County Infrastructure Project.

Cultural Resources:
The records search results indicate that no cultural resources have been recorded within the Project site. The records search also revealed that a portion of the Project site borders the Western Interceptor Levee District 784 (P-5-003367). This resource is located outside of the Project site and therefore will not be impacted by Project activities. A total of seven previous cultural studies have been completed within a 0.25-mile radius of the 30-acre parcel. Of these, four studies cover portions of or are adjacent to the parcel. These previous studies sufficiently cover the project site, and Padre does not recommend any further pedestrian survey for subsequent planning for future utilities on the parcel.

Phase I ESA:
Based on the results and limitations of the scope of services performed for this Phase I ESA, Padre found the following summary and conclusions regarding the Subject Property:

- According to FEMA Flood Insurance Rate Map, the Subject Property is located in Zone X (Area of Reduced Flood Risk Due to Levee).
- According to the Earthquake Fault Zone (EFZ) maps issued by the CGS, the Subject Property is not located within the boundaries of an EFZ, and no active faults are known to cross the Subject Property
- Based on historic air photos and maps, it appears that the Subject Property has been in agricultural use since at least 1952
- A site reconnaissance was completed on December 20, 2024. During the site reconnaissance, no petroleum and/or chemical containers or stained soils were observed at the Subject Property, and no aboveground or indications of underground petroleum storage tanks were observed.
- The Yuba County Agricultural Commissioner (YCAC) was consulted to request pesticide-use permits for the Subject Property. Pesticide-use reports for the Subject Property for the years 2019, 2020, 2022, 2023, and 2024 were provided by the YCAC. The permits indicate that fungicides, herbicides and insecticides were used on 95-acres of "Almonds" and were applied by aviation. No permit violations were reported.
- Environmental agency database information was obtained. The databases were reviewed to identify registrations and documented environmental incidents regarding the site and nearby properties within a one-mile radius. Padre also attempted to locate unplottable sites that EDR did not locate because of incomplete or incorrect address information. The subject parcel was not identified in any databases of known Recognized Environmental Conditions.

Please let me know if you need more information or have any questions.

PLANNING PARTNERS

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

January 8, 2025
Project No. 2402-4871

Environmental Planning Partners, Inc.
2934 Gold Pan Court, Suite 3
Rancho Cordova, California 95670

Attention: Bob Klousner

Subject: Biological Surveys for the Olivehurst Public Utilities District (OPUD) 30-Acre Parcel of Interest, Yuba County, California

Dear Mr. Klousner:

Padre Associates, Inc. (Padre) has prepared this letter report for the Olivehurst Public Utilities District (OPUD) 30-acre parcel of interest located south of the existing OPUD Wastewater Treatment Plant (WWTP). The 30-acre parcel is currently a parcel of interest for potential future expansion of the WWTP facility south of the City of Olivehurst, Yuba County, California. The 30-acre parcel of interest and study area for the biological surveys is in the SE1/4 of Section 17, Township 14 North, Range 4 East, of the Olivehurst USGS 7.5-minute topographic quadrangle.

The parcel of interest is a 30.7-acre parcel that is currently an almond orchard located south of the OPUD WWTP in Olivehurst (see Attachment 1, Figure 1 for project location). This parcel is also located immediately adjacent to Yuba County's South Olivehurst Stormwater Detention Basin (see Attachment 1, Figure 2). OPUD is currently preparing a WWTP Master Plan and is considering long term needs for increasing capacity at the existing facility. One option would be to increase the land area to allow for additional wastewater unit processes to be constructed in the area near the existing plant.

1.0 LITERATURE REVIEW

Padre biologists conducted a literature review of the parcel of interest and surrounding area that included a query of the California Natural Diversity Database (CNDDB) and Biogeographic Information and Observation System (BIOS), review of an unofficial IPaC U.S. Fish and Wildlife Service (USFWS) species list, and a review of the National Wetland Inventory (NWI) to identify waters or wetlands mapped on or near the site that may be potentially jurisdictional under the Clean Water Act. The NWI identified two features adjacent to the parcel of interest. These include the flooded southern portion of the OPUD WWTP identified as a palustrine, unconsolidated bottom, diked/impounded wetland (PUBk) and located approximately 70 feet north of the parcel of interest, and the Reclamation District 784 Clark Lateral Canal identified as a lower perennial riverine, unconsolidated bottom, permanently flooded feature (R2UBH) located near the west and south boundaries of the parcel of interest (see Attachment 2). The CNDDB query identified 18 special-status species occurrences within five miles of the site (CDFW, 2024) (see Attachment 3). The USFWS species list identified 10 federally threatened, endangered,

candidate, or proposed species potentially occurring in the area (USFWS, 2024) (see Attachment 4). Based on a review of historic aerial imagery, the almond orchard that currently occupies the area of interest appears to have been planted in February of 2020 and was used for agricultural purposes prior to planting the orchard.

2.0 FIELD SURVEY

After the literature search was completed and special-status species potentially occurring in the area were identified, a field survey was conducted by a Padre biologist on December 20, 2024, to review site conditions and identify potential for occurrence of biological resources at this location. A summary of the survey results is outlined below.

3.0 RESULTS

The parcel of interest is located in an orchard currently planted in almond trees. Field surveys were conducted during winter months when most plants are not blooming. Rows between orchard trees supported low growing herbaceous species such as cheeseweed (*Malva parviflora*), dove's foot geranium (*Geranium molle*), and immature grasses that were unidentifiable at the time of surveys. Several portions of the orchard were flooded and did not support vegetation at the time of the field surveys (see Attachment 1, Figure 3 for photos of current site conditions). The area within the almond orchard is managed for agricultural production and vegetation is highly modified. There is a berm around the west and south perimeter of the orchard that supports ruderal (weedy) vegetation including milk thistle (*Silybum marianum*), yellow star thistle (*Centaurea solstitialis*), black mustard (*Brassica nigra*), medusa head (*Elymus caput-medusae*), and Italian thistle (*Carduus pycnocephalus*). This area provides habitat for small mammals and extensive burrows of California ground squirrel (*Otospermophilus beecheyi*) were observed along the berms (see Attachment 1, Figure 3 for site photos). Small mammal species provide a prey base for a variety of predators including other mammals like coyote (*Canis latrans*) and raptors like red-tailed hawk (*Buteo jamaicensis*) and can provide suitable burrowing habitat for other native California wildlife, such as burrowing owl (*Athene cunicularia)*.

There were no potentially jurisdictional waters or wetlands within the study area; however, there are aquatic resource features adjacent to the study area. As noted in Section 1.0 there is a canal known as the Clark Lateral Canal, which is part of the Yuba County storm drain system. This canal is adjacent to the berm on the west and south perimeter of the orchard and conveys storm flows to the South Olivehurst Stormwater Detention Basin, which is also adjacent to the orchard, to the south and west of the parcel of interest (see Attachment 1, Figure 2 for the location of these features and Attachment 1, Figure 3 for photos). The South Olivehurst Stormwater Detention Basin was constructed in 2006 as part of the County's drainage improvements. These features are not within the study area but provide suitable habitat for riparian and aquatic species adjacent to the parcel of interest. The Clark Lateral Canal and the southern portion of the stormwater detention basin where the Clark Lateral connects to the detention basin were very densely covered in common water hyacinth (*Eichhornia crassipes*), a highly invasive species which reduces the habitat value. The remainder of the stormwater detention basin consisted of open water and riparian and wetland habitat supporting species that include willow (*Salix* sp.), Fremont cottonwood (*Populus fremontii*), coyote brush (*Baccharis pilularis*), and hardstem

bulrush (*Schoenoplectus acutus*). American bullfrog (*Lithobates catesbeianus*) was observed and calls of the Pacific treefrog (*Pseudacris regilla*) were detected in the stormwater detention basin. American bullfrogs are an invasive species that are known to be voracious predators that can have a strong negative impact on the presence of native species.

Based on the literature review a list of special-status species that have been reported within five miles of the study area has been compiled. Table 1 provides an analysis of the probability of occurrence for the special-status species identified in the literature review based on species ranges, previous observations, contemporary sightings, and presence of suitable habitat elements within the study area or immediately adjacent to the study area.

Table 1. Special-Status Species Reported within Five Miles of the OPUD 30-Acre Parcel of Interest

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
PLANTS			
Downingia pusilla Dwarf downingia	CRPR 2B.2	Valley and foothill grasslands and vernal pools at elevations ranging from 1 to 1,460 feet. Blooms from March to May.	**None**. There is no suitable habitat within the study area to support this species. The nearest recorded occurrence (Occ. #95; 1999) is located approximately 5.0 miles northeast of the study area at the Beale Air Force Base. The nearest recent occurrence (Occ. #141; 2014) is located over 23 miles southeast of the study area.
Monardella venosa Veiny monardella	CRPR 1B.1	Cismontane woodlands and Valley and foothill grasslands, usually in clayey soil, at elevations ranging from 195 to approximately 1,345 feet. Blooms from May to July.	**None**. There is no suitable habitat within the study area to support this species. The nearest recorded occurrence (Occ. #3) is located approximately 1.0 mile north of the study area along the Feather River. However, this is a historical occurrence from 1854 and is likely extirpated. There are only four total CNDDB recorded occurrences of this species, and all are historical.
Pseudobahia bahiifolia Hartweg's golden sunburst	FE, SE, CRPR 1B.1	Cismontane woodlands and Valley and foothill grasslands, often in acidic clayey soil, at elevations ranging from 50 to approximately 490 feet. Blooms from March to April.	**None**. There is no suitable habitat within the study area to support this species. The nearest recorded occurrence (Occ. #10) is located approximately 1.0 mile north of the study area. However, this is a historical occurrence from 1847 and is presumed extirpated because the area is now developed for residential, industrial, and agricultural uses. There are no recent CNDDB occurrences of this species.
Sagittaria sanfordii Sanford's arrowhead	CRPR 1B.2	Assorted freshwater habitats including swamps and marshes at elevations ranging from 0 to 2130 feet. Blooms from May to October, sometimes into November.	**None**. There is no suitable habitat within the study area to support this species. The nearest recorded occurrence (Occ. #98; 1955) is a historic occurrence located approximately 3.7 miles southwest of the study area along the Feather River near the Feather River Wildlife Area. The nearest recent occurrence (Occ. #113; 2015) is located over 20 miles northwest of the study area.

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
INVERTEBRATES			
Branchinecta conservatio Conservancy fairy shrimp	FE	Large, cool-water vernal pools with moderately turbid water where pools generally last until June; however, the shrimp are gone long before then.	**Low**. There are several areas within the orchard that are subject to seasonal flooding; however, no aquatic invertebrates were observed in ponded areas during field surveys conducted in the wet season and it is unlikely that this species would occur onsite due to high levels of disturbance associated with agricultural cultivation. The nearest recorded occurrence (Occ. #36; 2012) is located approximately 13.2 miles southeast of the study area.
Branchinecta lynchi Vernal pool fairy shrimp	FT	Endemic to the grasslands of the central valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Regionally inhabits small, clear-water sandstone depression pools and grass swale, earth slump or basalt-flow vernal pools.	**Low**. There are several areas within the orchard that are subject to seasonal flooding; however, no aquatic invertebrates were observed in ponded areas during field surveys conducted in the wet season and it is unlikely that this species would occur onsite due to high levels of disturbance associated with agricultural cultivation. The nearest recorded occurrence (Occ. #708; 2007) is located approximately 1.5 miles northeast of the study area within a basin classified as a non-jurisdictional irrigation ditch.
Danaus plexippus Monarch butterfly	FPT	Monarchs roost in eucalyptus, Monterey cypress, Monterey pine, and other trees in groves along the Pacific coastline of California, arriving starting in late October. Dispersal from these roosts generally begins in mid-February. Milkweed and nectar plant availability throughout the spring, summer and fall is important for monarch migration. In areas of the desert southwest, monarchs use nectar and milkweed plants throughout much of the year.	**Low**. There is no suitable breeding or overwintering habitat to support monarch butterfly within the study area. Monarch butterflies may be observed as transients in the area. The nearest recorded occurrence (Occ. #23; 1979) is located over 60.0 miles southwest of the study area in Fairfield, CA.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle (VELB)	FT	Occurrences of the VELB are primarily in the vicinity of moist valley oak woodlands associated with riparian corridors in the lower	**None**. No elderberry shrubs were identified in the study area during surveys. There is no habitat to support VELB at the site. The nearest recorded occurrence (Occ. #190;

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
		Sacramento River and upper San Joaquin River drainages (U.S. Fish and Wildlife Service, 1984). Blue elderberry plants are obligate hosts for the VELB, providing a source of food and brood wood.	2006) is located approximately 3.6 miles southwest of the study area within the Feather River Wildlife Area.
Lepidurus packardi Vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales in the central valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud bottomed and highly turbid.	**Low**. There are several areas within the orchard that are subject to seasonal flooding; however, no aquatic invertebrates were observed in ponded areas during field surveys conducted in the wet season and it is unlikely that this species would occur onsite due to high levels of disturbance associated with agricultural cultivation. Two recorded occurrences are within 0.5-mile north (Occ. #380; 2016) and northwest (Occ. #221; 2004) of the study area. Occurrence #380 consists of cysts that were detected during dry season sampling within an artificial seasonal wetland in a rural residential neighborhood. Occurrence #221 consists of hundreds of adults observed within a seasonal depression in a former agricultural field.
FISHES			
Acipenser medirostris pop. 1 Green sturgeon – Southern DPS	FT, CSC	Anadromous fish species found in near shore marine and estuarine environments from Alaska to Baja California, Mexico. Green sturgeon depend on large rivers to spawn, typically in deep pools in large turbulent mainstem rivers. The Sacramento River watershed is the only confirmed present and historical spawning area. Spawning occurs in the Sacramento River and has recently been documented in the Feather River and Yuba River (tributaries to the Sacramento River).	**None**. There is no suitable habitat in the study area to support green sturgeon. Recorded occurrences #2 from 2020 and #8 from 2016 are both approximately 3.1 miles west of the study area within the Feather River.
Oncorhyncus mykiss irideus pop. 11 Steelhead – Central Valley DPS	FT, CSC	Sacramento and San Joaquin Rivers and their tributaries.	**None**. There is no suitable habitat in the study area to support steelhead. The nearest recorded occurrence (Occ.

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
			#1; 2012) is located approximately 3.1 miles west of the study area within the Feather River.
Oncorhynchus tshawytscha pop. 11 Chinook salmon – Central Valley spring-run ESU	FT, ST	Sacramento and San Joaquin Rivers and their tributaries.	**None**. There is no suitable habitat in the study area to support chinook salmon. The nearest recorded occurrence (Occ. #5; 2015) is located approximately 3.1 miles west of the study area within the Feather River.
AMPHIBIANS			
Spea hammondii Western spadefoot	FPT, CSC	Primarily found in grasslands but can be found in other open areas of woodlands, coastal sage scrub, and chaparral. Breeding requires ponded water, often occurring seasonally from rainfall.	**Low**. There are several areas within the orchard that are subject to seasonal flooding; however, these areas are highly disturbed and largely unvegetated and it is unlikely that this species would occur onsite due to high levels of disturbance associated with agricultural cultivation. The nearest recorded occurrence (Occ. #1295; 2016) is located approximately 13.6 miles southeast of the study area where one gravid female was found within the road.
REPTILES			
Actinemys marmorata Northwestern pond turtle	FPT, CSC	Ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat (sandy banks, grassy open fields) for egg laying.	**Moderate**. There is suitable aquatic habitat in the County stormwater basin adjacent to the southeast portion of the study area. The orchard currently present within the study area does not provide suitable upland or nesting habitat due to high levels of disturbance associated with agricultural cultivation but suitable upland habitat may be present along the perimeter of the orchard and on the berms immediately adjacent to the orchard. The nearest recorded occurrence (Occ. #734; 1998) is a historic occurrence located approximately 5.3 miles southeast of the study area within a perennial, low-gradient creek bordered by annual grassland and an orchard. The nearest recent occurrence (Occ. #1,317; 2016) is located

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
			approximately 16.2 miles northeast of the Project site near the Spencerville Wildlife Area.
Thamnophis gigas Giant gartersnake	FT, ST	Freshwater marshes and streams with summer water, emergent wetland vegetation and suitable basking habitat. Has adapted to drainage canals and irrigation ditches. Rice fields in the Central Valley are known to support GGS.	**Moderate**. There is marginal aquatic habitat in the Clark Lateral Canal and the County stormwater basin adjacent to the study area and historic aerial imagery shows summer water present in most years. The orchard cover within the study area does not provide suitable upland or overwintering habitat due to topographic low position, lack of cover, and high levels of disturbance associated with agricultural cultivation; however, the surrounding berms immediately adjacent to the orchard may provide suitable upland or overwintering habitat where small mammal burrows are present. The nearest recorded occurrence (Occ. #192; 2014) is located approximately 8.0 miles southwest of the study area within agricultural land dominated by rice fields. All but one occurrence (Occ. #108; unknown date) are located on the opposite sides of the Feather River and Bear River.
BIRDS			
Agelaius tricolor Tricolor blackbird	ST, CSC, BCC	Colonial nesting species. Nesting habitat is often found near a source of water and in emergent wetland, grassland, or agricultural cropland.	**Moderate**. Marginally suitable nesting habitat is present in the adjacent stormwater detention basin which supports riparian habitat and emergent vegetation, though the density of vegetation in adjoining area may not be suitable to support a large nesting colony. Recorded occurrence #572 is within the southwestern vicinity of the study area where a breeding colony composed of about 15.000 nests was observed in 1940. No tricolor blackbirds have been observed at this location during surveys in 1994 and 2014. The nearest recent occurrence (Occ. #897; 2015) is located approximately 0.8 miles east of the Project site where an estimated 3,000

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
			birds were observed breeding, singing, and carrying nest material within cattails near a small pond.
Athene cunicularia Burrowing owl	SC, CSC, BCC	Dry, open grasslands, treeless plains with sparse vegetation such as prairie, pastures, desert, or shrub steppe, and airports. Underground nesting habitat in burrows and often associated with prairie dogs and ground squirrels, whose burrows they use for nests.	**High**. Suitable burrowing habitat is present in the berm around the west and south perimeter of the orchard and adjacent to the parcel of interest to the north (berm around the southern portion of the OPUD WWTP). An extensive California ground squirrel colony was observed within these berm areas and previous surveys of the WWTP for the South County Infrastructure Project indicated that several of the burrows in the southern portion of the WWTP showed sign of renovation by burrowing owl. The nearest contemporary occurrence (Occ. #2003) from 2016 is approximately 12.3 miles southeast of the project site near Sheridan.
Buteo swainsoni Swainson's hawk	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savanna. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**High (nesting)/ None (foraging)**. The study area does not have suitable nest trees onsite, but suitable nesting habitat is present in surrounding areas within riparian corridors, eucalyptus groves, or other areas with large trees within 0.5-mile of the site. Orchards are not considered suitable foraging habitat for Swainson's hawk; therefore, the site does not currently provide suitable foraging habitat for this species. The nearest recorded occurrence (Occ. #1,528; 2003) is located approximately 0.8 miles south of the study area where an active nest was observed in a valley oak tree (*Quercus lobata*). The nearest recent occurrence (Occ. #1,525; 2015) is located approximately 2.8 miles west of the study area where an active nest was observed within a cottonwood tree (*Populus fremontii*) adjacent to the Feather River.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT, SE	During the summer breeding season, it can be rarely found in valley foothill and desert	**Low**. Potentially suitable habitat present in adjacent riparian cover; however, riparian habitat in the adjoining

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
		riparian habitats in California. Typically breeds in dense deciduous riparian vegetation.	area is lacking preferred size and density for nesting. The nearest recorded occurrence (Occ. #91; 1976) is located approximately 4.5 miles northwest of the study area near Yuba City. The nearest recent occurrence (Occ. #222; 2017) is located over 30.0 miles northwest of the study area.
Elanus leucurus White-tailed kite	FP	Rolling foothills / valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Forages over grasslands, marshes, and oak savannas close to isolated, dense-topped trees for nesting and perching.	**High**. Potentially suitable nesting habitat occurs in riparian habitat at the adjacent stormwater detention basin site. The nearest recorded occurrence (Occ. #78; 2003) is located approximately 1.4 miles north of the study area where a nest was observed within a black locust tree (*Robinia* sp.). The nearest recent occurrence (Occ. #182; 2017) is located over `34.0 miles south of the study area within Sacramento, CA,
Melospiza melodia pop. 1 Song sparrow ("Modesto" population)	CSC	Marsh and riparian scrub; Resident of the north-central portion of the Central Valley. Nests in emergent freshwater marshes, riparian habitat, and vegetated irrigation canals.	**High**. Suitable habitat is present in wetland habitat in the adjacent stormwater detention basin. The nearest recorded occurrence (Occ. #87; 1915) is located approximately 5.0 miles northwest of the study area within Marysville. There are no recent recorded occurrences of this species.
Riparia riparia Bank swallow	ST	Can be found along rivers and streams along the steep eroded banks where they nest. Can also be found nesting in quarries and road cuts.	**None**. There is no suitable nesting habitat onsite or in riparian or wetland habitat on the adjacent stormwater detention site. Although the species may pass through or forage in the area, there is no suitable nesting habitat present in proximity to the study area. The nearest recorded occurrence (Occ. #132; 1987) is located approximately 2.9 miles west of the study area along the east bank of the Feather River. There are no recent occurrences of this species within 37.0 miles of the study area.
Vireo bellii pusillus Least Bell's vireo	FE, SE	Typically nests in riparian habitat with dense shrub cover and a structurally diverse canopy.	**Low**. The species is very rare in the region and riparian cover in the adjacent stormwater detention basin site is lacking density to provide suitable nesting habitat. The

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Likelihood of Occurrence and Rationale**
			nearest recorded occurrence (Occ. #524; 1878) is located approximately 4.9 miles northwest of the study area within Marysville. There are no recent occurrences of this species within 290 miles of the study area.

[1] Status:
FE = Federal Endangered
FT = Federal Threatened
FPT = Federal Proposed Threatened
SE = California State Endangered
ST = California State Threatened
SC = California State Candidate
FP = CDFW Fully Protected

CRPR 1B.1 = Rare, threatened, or endangered in California and elsewhere, seriously threatened in California
CRPR 1B.2 = Rare, threatened, or endangered in California and elsewhere, moderately threatened in California
CRPR 2B.2 = Rare, threatened, or endangered in California but more common elsewhere; moderately threatened in California
CSC = California Species of Special Concern
BCC = USFWS Bird of Conservation Concern

4.0 CONCLUSIONS AND RECOMMENDATIONS

The 30-acre parcel of interest is highly disturbed by agricultural activity associated with current operations in almond cultivation. The property lacks suitable habitat for the majority of the special-status species identified in the literature review and outlined in Table 1; however, wetland and riparian habitat occurs in adjoining areas, which may attract special-status species to the area. Special-status species that may occur at or near the Project site include vernal pool branchiopods (fairy shrimp and tadpole shrimp), giant gartersnake, burrowing owl, and Swainson's hawk. A review of the potential for occurrence of each of these species is included below.

Vernal Pool Branchiopods

Several vernal pool branchiopods (fairy shrimp and tadpole shrimp) are federally listed species that occur in the area and seasonal wetlands in the region provide suitable habitat for vernal pool species. Flooding was observed within topographic low areas of the orchard; however, based on the history of disturbance on this property and current use as an orchard, it is unlikely that the site currently provides suitable habitat for vernal pool species due to history of disturbance on the property, depth of ground disturbance associated with planting trees, and ongoing agricultural operations which involve the routine use of pesticides and herbicides in agricultural practices as identified by the current property owner.

No vernal pool indicator plants were observed, no aquatic invertebrates were observed within the ponded areas at the time of field surveys, and ponding was limited to the low topographic areas primarily in the southern portion of the orchard (see Attachment 1, Figure 3 for site photos). If agricultural use of the property was halted and the property reverted to natural conditions, current drainage patterns suggest that suitable habitat for vernal pool branchiopods could develop onsite.

Giant gartersnake

Giant gartersnake (GGS) is a state and federally listed Threatened species found in emergent marsh habitats associated with waterways during spring and summer and hibernates in adjacent upland habitat during the winter. Due to extensive habitat loss, giant gartersnakes now inhabit remaining wetlands as well as highly modified habitats, such as agricultural areas. Active rice fields and irrigation and drainage ditches serve as an alternative habitat that is used by giant gartersnake because they provide the habitat components typically required by giant gartersnake. Essential components of giant gartersnake habitat include:

- A fresh-water aquatic component with adequate water from early spring through fall to provide foraging habitat and cover;
- Emergent herbaceous wetland vegetation to provide foraging habitat, cover, and basking areas;
- An upland component near the aquatic habitat that can be used for thermoregulation, cover, and retreat; and

- An upland refugia component at higher elevation sites that will serve as winter hibernacula and provide cover and refuge from flood waters (Hansen and Brode, 1980; USFWS, 1997).

Adjacent aquatic features, including the Clark Lateral Canal and the County's Stormwater Detention Basin provide marginal aquatic habitat for GGS. The orchard does not provide suitable upland or overwintering habitat, but the surrounding berms with small mammal burrows may provide suitable upland and overwintering habitat and are located within 200 feet of adjacent aquatic habitat.

Typical measures for avoidance of GGS would include work during the active season (May 1 to October 1) and installation of exclusion fencing between areas of suitable habitat and impact areas for temporary disturbances. Permanent loss of suitable aquatic, upland, or overwintering habitat would require compensatory mitigation.

Western pond turtle

Western pond turtle is a species that is federally proposed to be listed as Threatened. Suitable habitat includes aquatic habitat with basking sites available for thermoregulation and nearby upland breeding habitat. Suitable aquatic habitat occurs outside the study area, but in close proximity to the area of interest, in the South Olivehurst stormwater detention basin and the Clark Lateral Canal, though suitable basking habitat was limited to areas around the stormwater detention basin. Suitable upland habitat may be present along the perimeter of the orchard and on the berms immediately adjacent to the orchard.

Typical measures for avoidance of this species would include pre-construction surveys and installation of exclusion fencing between areas of suitable habitat and project impact areas to exclude pond turtle from worksites. These measures are similar to those that would be required for avoidance of GGS.

Burrowing Owl

Burrowing owl is a California species of concern and a candidate for listing under the California Endangered Species Act (CESA). Burrowing owls are semicolonial with 5 to 6 pairs per acre. Burrowing owls usually enlarge burrows excavated by ground squirrels or other fossorial species, but may excavate their own in soft, friable soils. The owls show a high level of site fidelity, and reuse burrows, but burrows may be used by different pairs in different years. Several burrows may be excavated with one used for nesting, while satellite burrows are used for escape, perching, and observation. They will also use pipes, culverts, debris piles, and nest boxes in areas where burrows are scarce. Burrows are generally surrounded by bare ground or short grass that afford unrestricted views. High perches and elevated areas with clear lines-of-sight, such as mounds, fences, or other structures, are used as for hunting and detecting predators including skunks, badgers, bobcats, coyotes, and barn owls.

Suitable burrowing owl habitat is present along the raised berms north, west, and south of the orchard where an extensive California ground squirrel colony was observed. Previous surveys

of the berm south of the OPUD WWTP conducted for a different project reported that several of the burrows showed signs of renovation by burrowing owls. Due to the presence of suitable habitat and previous signs of burrowing owl in the area, development of the parcel of interest could result in disturbance to burrowing owl. Protocol surveys following the guidelines outlined by the California Department of Fish and Wildlife (CDFW) in the *Staff Report on Burrowing Owl Mitigation* (CDFW, 2012) may be required for areas providing suitable burrowing owl habitat within 1,640 feet (500 meters) of areas proposed for construction or development. If occupied burrows are identified during protocol surveys, a protective buffer consistent with CDFW guidelines may be required. Appropriate protective buffers depend on the type of burrowing owl occurrence (nesting or overwinter), level of project disturbance, and time of year that the disturbance occurs. Nest protection buffers from the CDFW guidelines are outlined in Table 2 below.

Table 2. Burrowing Owl Nest Protection Buffers

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting Site	April 1 – Aug 15	200 m	500 m	500 m
Nesting Site	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting Site	Oct 16 – March 31	50 m	100 m	500 m

Permanent impacts to occupied burrowing owl habitat would require coordination with CDFW, preparation of a burrowing owl exclusion plan, and compensatory mitigation consistent with CDFW requirements.

Swainson's hawk

The State-threatened Swainson's hawk occurs in the region. There are 23 Swainson's hawk occurrences within five miles of the study area, the closest of which is less than one mile from the parcel of interest. Swainson's hawks generally forage within 10 miles of their nest tree, and more commonly within five miles of their nest. The orchard is considered unsuitable foraging habitat for Swainson's hawk because it currently supports mature orchard trees making prey species within the orchard unavailable to Swainson's hawk due to the vegetation characteristics (CDFG, 1994). However, there are suitable Swainson's hawk nesting trees located within a half mile of the Project site. Because Swainson's hawk is a State-listed species and there are known nesting occurrences in the vicinity of the Project Site, there is the potential that construction near Swainson's hawk nesting areas could disrupt breeding activities.

Pre-construction surveys in accordance with the *Swainson's hawk Technical Advisory Committee (TAC) Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000) may be

required within 0.5-mile of the site if construction activities are scheduled to occur during the nesting season (March 1 to September 15). If Swainson's hawk nests are identified, a nest protection avoidance buffer of 0.25-mile to 0.5-mile around the active nest may be required until the young have fledged. Compensatory mitigation for loss of foraging habitat would not be expected given current site conditions (active orchard); however, if orchard trees are eliminated and the property reverts to natural conditions or is planted in herbaceous crop cover that is considered suitable foraging habitat, compensatory mitigation for loss of foraging habitat would be required.

Migratory Birds

The orchard trees and the trees and shrubs in surrounding riparian areas provide suitable nesting habitat for migratory birds. If vegetation removal or construction activities occur during the nesting season (typically February 1 to September 15), pre-construction surveys of suitable habitat within 500 feet of worksites and disturbance areas for passerines and within 0.25-mile of worksites and disturbance areas for raptors would be required. If nests are identified, a suitable nest protection buffer would be recommended by a qualified biologist based on the species, nest phenology, and site-specific conditions. Construction activities would be prohibited within the established buffer zones until the young have fledged

Waters /Wetlands

There are no potentially jurisdictional waters or wetlands within the 30-acre Parcel of Interest. Development of the property would not impact federal and state regulated waters or wetlands as defined by Section 404 of the Clean Water Act.

This letter report provides a review of the biological resources within the 30-acre parcel of interest. Please contact me at 916-333-5920 ext. 210 if you have any questions regarding this letter report.

PADRE ASSOCIATES, INC.



Sarah Powell
Principal Biologist

Attachments:
Attachment 1 – Figures
Attachment 2 – NWI Map
Attachment 3 – CNDDB Query Results
Attachment 4 - USFWS IPaC Species List

5.0 REFERENCES

California Department of Fish and Game (CDFG). 1994. State Fish and Game Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California.

California Department of Fish and Wildlife. 2012. State of California Natural Resource Agency Department of Fish and Game Staff Report on Burrowing Owl Mitigation. March 7, 2021.

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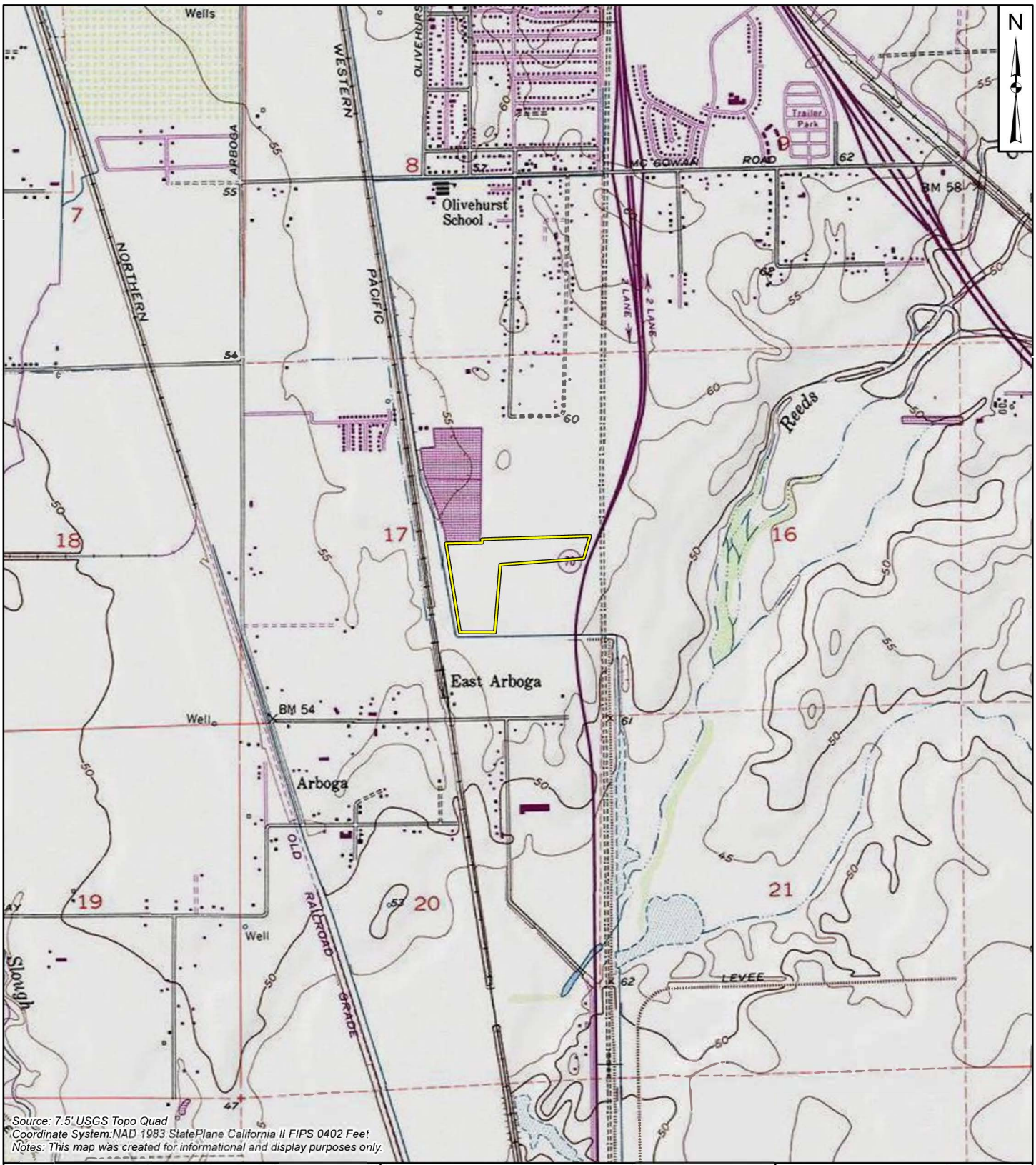
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------ 2024. Unofficial IPaC Species List for the 30-acre parcel of interest. Sacramento Fish and Wildlife Office, Sacramento, CA [accessed December 2024]

------ 2024b. National Wetland Inventory-Wetland Mapper. Website: http://www.fws.gov/wetlands/Data/Mapper.html [accessed December 2024]

ATTACHMENT 1

FIGURES



0 1,000 2,000

FEET

1:24,000

USGS 7.5' Quadrangle: Olivehurst

Legal Description: T14N, R04E, Sec. 17

LEGEND:

Project Location



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: OPUD WASTEWATER FUTURE EXPANSION PROPERTY ACQUISITION YUBA COUNTY, CA

PROJECT NUMBER: 2402-4871

DATE: December 2024

PROJECT LOCATION

FIGURE 1



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Figure 2
Biological Study Area
OPUD 30-acre Parcel of Interest

Photograph A. East view of the almond orchard from west perimeter (Photograph taken 12/20/24).	
Photograph B. Northeast view of the almond orchard from the adjacent berm (Photograph taken 12/20/24).	

Figure 3
Site Photographs
OPUD 30-acre Parcel of Interest

Photograph C. West view of flooded areas in the southern portion of the orchard (Photograph taken 12/20/24).	
Photograph D. South view of flooded portion of orchard. Berm along the southern perimeter of the property visible in background (Photograph taken 12/20/24).	

Photograph E. South view of the berm west of the orchard with ground squirrel burrows in foreground (Photograph taken 12/20/24).	
Photograph F. West view of ground squirrel burrows in the berm along the western perimeter of the orchard (Photograph taken 12/20/24).	

Photograph G. Northwest view of the Clark Lateral Canal outside the study area but adjacent to the western property boundary. Canal is full of water hyacinth, an invasive species (Photograph taken 12/20/24).	
Photograph H. Northeast view of the Clark Lateral Canal connection to the South Olivehurst Stormwater Detention Basin (Photograph taken 12/20/24).	

Photograph I. Northeast view of the northern portion of the South Olivehurst Stormwater Detention Basin with wetland and riparian habitat outside, but adjacent to, the study area (Photograph taken 12/20/24).	
Photograph J. East view along northern perimeter of the parcel of interest with fence along south limits of the OPUD WWTP visible in left of photo (Photograph taken 12/20/24).	

ATTACHMENT 2

NATIONAL WETLAND INVENTORY

U.S. Fish and Wildlife Service
National Wetlands Inventory

Olivehurst Public Utilities District (OPUD) Wastewater Treatment Plant Expansion Project



December 13, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

ATTACHMENT 3

CNDDB QUERY RESULTS

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: BIOS selection

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Acipenser medirostris pop. 1 green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	24 129	14 S:2	0	0	1	0	0	1	0	2	2	0	0
Agelaius tricolor tricolored blackbird	G1G2 S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered USFWS_BCC-Birds of Conservation Concern	30 60	960 S:11	0	0	0	0	3	8	7	4	8	3	0
Bombus pensylvanicus American bumble bee	G3G4 S2	None None	IUCN_VU-Vulnerable	53 60	760 S:2	0	0	0	0	0	2	2	0	2	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	52 65	804 S:3	0	0	0	2	0	1	0	3	3	0	0
Buteo swainsoni Swainson's hawk	G5 S4	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	30 70	2577 S:23	1	1	0	0	0	21	17	6	23	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	50 50	165 S:1	0	0	0	0	0	1	1	0	1	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T3 S3	Threatened None		35 74	271 S:3	0	2	0	0	1	0	1	2	2	0	1
Downingia pusilla dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	250 250	132 S:1	0	0	0	0	0	1	1	0	1	0	0
Elanus leucurus white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	60 60	190 S:1	1	0	0	0	0	0	1	0	1	0	0
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	47 47	523 S:1	0	0	0	0	0	1	0	1	1	0	0
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	G2 S2.1	None None		35 35	56 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Great Valley Mixed Riparian Forest	G2	None		33	68	0	0	0	0	0	1	1	0	1	0	0
Great Valley Mixed Riparian Forest	S2.2	None		33	S:1											
Lepidurus packardi	G3	Endangered	IUCN_EN-Endangered	52	336	0	2	2	2	0	1	3	4	7	0	0
vernal pool tadpole shrimp	S3	None		70	S:7											
Linderiella occidentalis	G2G3	None	IUCN_NT-Near Threatened	47	508	0	2	2	0	0	2	5	1	6	0	0
California linderiella	S2S3	None		70	S:6											
Melospiza melodia pop. 1	G5T3?Q	None	CDFW_SSC-Species of Special Concern	60	92	0	0	0	0	0	1	1	0	1	0	0
song sparrow ("Modesto" population)	S3?	None		60	S:1											
Monardella venosa	G1	None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	100	4	0	0	0	0	1	0	1	0	0	1	0
veiny monardella	S1	None		100	S:1											
Oncorhynchus mykiss irideus pop. 11	G5T2Q	Threatened	AFS_TH-Threatened CDFW_SSC-Species of Special Concern		31	0	0	0	0	0	1	0	1	1	0	0
steelhead - Central Valley DPS	S2	None			S:1											
Oncorhynchus tshawytscha pop. 11	G5T2Q	Threatened	AFS_TH-Threatened	120	13	0	0	0	0	0	1	0	1	1	0	0
chinook salmon - Central Valley spring-run ESU	S2	Threatened		120	S:1											
Pseudobahia bahiifolia	G1	Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		27	0	0	0	0	1	0	1	0	0	0	1
Hartweg's golden sunburst	S1	Endangered			S:1											
Riparia riparia	G5	None	BLM_S-Sensitive IUCN_LC-Least Concern	35	299	0	2	0	0	0	3	2	3	5	0	0
bank swallow	S3	Threatened		55	S:5											
Sagittaria sanfordii	G3	None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		143	0	0	0	0	0	1	1	0	1	0	0
Sanford's arrowhead	S3	None			S:1											
Vireo bellii pusillus	G5T2	Endangered		50	505	0	0	0	0	0	1	1	0	1	0	0
least Bell's vireo	S3	Endangered		50	S:1											

ATTACHMENT 4

USFWS IPAC SPECIES LIST

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Yuba County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

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2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake Thamnophis gigas Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle Actinemys marmorata Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

Amphibians

NAME	STATUS
Western Spadefoot Spea hammondii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

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Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp Branchinecta conservatio Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Hartweg's Golden Sunburst Pseudobahia bahiifolia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1704	Endangered

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Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NOT FOR CONSULTATION

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

December 20, 2024
Project No. 2402-4871

Environmental Planning Partners, Inc.
2934 Gold Pan Court, Suite 3
Rancho Cordova, California 95670

Attention: Bob Klousner

Subject: Cultural Resource Constraints Analysis, OPUD Wastewater Future Expansion Property Acquisition, Yuba County, California.

Dear Bob,

Padre Associates, Inc. (Padre) has completed a Cultural Resource Constraints Analysis in support of the Olivehurst Public Utilities District (OPUD) Wastewater Future Expansion Property Acquisition Project (Project) located to the south of the existing OPUD Wastewater Treatment Plant (WWTP) south of the City of Olivehurst, Yuba County, California (Project site). Specifically, the Project site is in the SE ¼ of Section 17 of Township 14 North, Range 4 East of the Olivehurst USGS 7.5-minute topographic quadrangle (Figure 1-1). OPUD is interested in acquiring this property for potential future expansion of the WWTP.

Proposed Project and Site Description

The parcel of interest is 30.7-acre parcel (currently an active orchard) immediately southeast of the WWTP in Olivehurst. This parcel is also located immediately adjacent to the County's South Olivehurst Stormwater Detention Basin. OPUD is currently conducting a WWTP Master Plan and is looking at long term needs for increasing capacity at the facility. One option would be to increase the land area to allow for additional wastewater unit processes to be constructed in the area near the existing plant.

Records Search Results

On December 16, 2024, Padre ordered an expedited records search at the North Central Information Center (NCIC) located at California State University, Sacramento. The center is an affiliate of the State of California Office of Historic Preservation and the official state repository of archaeological and historic records and reports for six counties including Yuba County. Padre received the results on December 17, 2024. This memo summarizes the records search results and provides recommendations.

The records search included a review of all recorded historic-era and prehistoric archaeological sites within a 0.25-mile radius of the Project site as well as a review of known cultural resource surveys and technical reports. The State Historic Property Data Files, National Register of Historic Places (NRHP), National Register of Determined Eligible Properties, California Points of Historic Interest, and the California Office of Historic Preservation Archaeological Determinations of Eligibility also were analyzed.

The records search identified no previously recorded cultural resources within the Project site; however, P-58-003367 (Western Interceptor Levee Reclamation District 784) is located adjacent to the southwestern and southern boundaries of the Project site. Three historic-aged resources (CA-YUB-1911H, CA-YUB-2108H, and CA-YUB-2109H) are located within a 0.25-mile radius. The closest of the sites, CA-VEN-2109H, lies approximately 140 feet east of the Project site. Table 1 lists and describes these resources.

A portion of the Project site on the southwest and south borders the Western Interceptor Levee, Reclamation District 784 (P-58-003367). This resource was evaluated and determined not eligible for listing on the National Register of Historic Place (NRHP) with a concurrence from the United States Army Corps of Engineers and California Office of Historic Preservation.

Table 1. Previously Recorded Cultural Resources

Primary No.	Trinomial No.	Description
P-58-001372	CA-YUB-1911H	Western Pacific Railway
P-58-003367	-	Western Interceptor Levee, Reclamation District 784
P-58-003423	CA-YUB -2108H	Palermo-East Nicolaus Transmission Line
P-58-003424	CA-YUB-2109H	Palermo-Rio Oso N0. 2 Transmission Line

Source: NCIC, 2024.

The records search also indicated that seven previous cultural resource studies have been completed within a 0.25-mile radius of the Project site. Of these, four studies overlap with or are adjacent to the Project site. Table 2 lists and describes these studies.

Table 2. Previous Cultural Resource Studies Completed within or adjacent to the Project site

Report No.	Author(s), Year	Title
6298	Jones & Stokes, 2004	Cultural Resources Inventory and Evaluation Report for the Bear River and Western Pacific Interceptor Canal Levee Improvements Project
8351	Wee et al., 1994	Historic Architectural Survey Report and Resource Evaluation Report State Route 70 Expressway/Freeway Project in Sutter and Yuba Counties
8356	Jensen, 2004	Archaeological Inventory Survey Olivehurst Public Utility District's Proposed Expansion Project, c. 454 acres Within and Adjacent to the Wastewater Treatment Plant Site at Olivehurst
9423	Grant, 2008	Cultural Resources Survey for the Urban Levee Project

Source: NCIC, 2024

Results and Recommendations

The records search results indicate that no cultural resources have been recorded within the Project site.

The records search also revealed that a portion of the Project site borders the Western Interceptor Levee District 784 (P-5-003367). This resource is located outside of the Project site and therefore will not be impacted by Project activities.

A total of seven previous cultural studies have been completed within a 0.25-mile radius of the Project site. Of these, four studies cover portions of or are adjacent to the Project site. These previous studies sufficiently cover the Project site, and Padre does not recommend any further pedestrian survey for this Project.

CLOSING

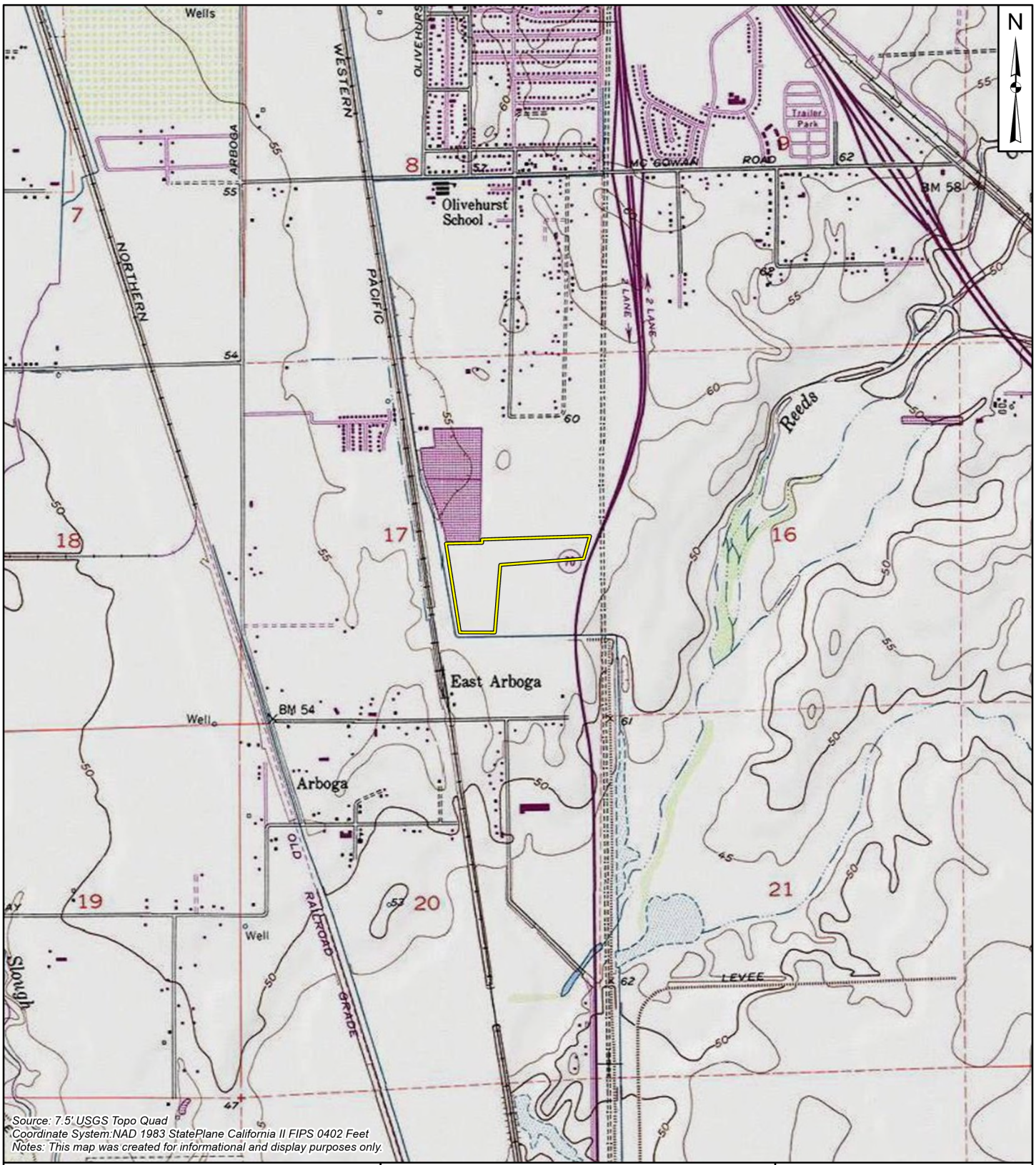
If you should have any questions regarding the information presented in this letter and/or require additional information for review purposes, please contact me at (805) 245-2650 or rletter@padreinc.com.

Sincerely,
Padre Associates, Inc.



Rachael J. Letter, M.S., RPA
Senior Archaeologist

ATTACHMENTS
Figure 1. Project Location Map



0 1,000 2,000

FEET

1:24,000

USGS 7.5' Quadrangle: Olivehurst
Legal Description: T14N, R04E, Sec. 17

LEGEND:

Project Location



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: OPUD WASTEWATER FUTURE EXPANSION PROPERTY ACQUISITION YUBA COUNTY, CA

PROJECT NUMBER: 2402-4871

DATE: December 2024

PROJECT LOCATION

FIGURE 1-1

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PHASE I ENVIRONMENTAL SITE ASSESSMENT

OPUD 30-AC ACQUISITION PROJECT
FOR OLIVEHURST PUBLIC UTILITY DISTRICT
OLIVEHURST, YUBA COUNTY, CALIFORNIA



Prepared for:

Environmental Planning Partners
on behalf of Olivehurst Public Utility District

JANUARY 2025

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

January 15, 2025
Project Number: 2401-4891

Robert Klousner, President
Environmental Planning Partners
2934 Gold Pan Court, Suite 3
Rancho Cordova, California 95670-6136

Subject: Phase I Environmental Site Assessment for the OPUD 30-Acre Acquisition Project, Located in Olivehurst, Yuba County, California

Dear Mr. Klousner,

Padre Associates, Inc. (Padre), at the request of Environmental Planning Partners (Planning Partners) and on behalf of the Olivehurst Public Utility District (OPUD) has prepared this Phase I Environmental Site Assessment (ESA) report for the OPUD 30-acre acquisition project. The Subject Property is located southeast of the Olivehurst Wastewater Treatment Plant, in Olivehurst, Yuba County, California.

The Phase I ESA was performed in general accordance with the American Society for testing and Materials (ASTM) Standard Practice Designation E 1527-21.

Padre appreciates the opportunity to provide environmental consulting services to Planning Partners and OPUD. If you have any questions or require additional information, please contact the undersigned at (916) 333-5920, Ext. 240.

Sincerely,

PADRE ASSOCIATES, INC.

Alan J. Klein, R.E.P.A., C.P.E.S.C., QSD/QSP
Associate Senior Environmental Scientist

Alan Churchill, P.G.
Senior Geologist

Cc: Mary Wilson, Planner, Environmental Planning Partners

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1.0 INTRODUCTION

Padre Associates, Inc. (Padre), at the request of Environmental Planning Partners (Planning Partners) and on behalf of the Olivehurst Public Utility District (OPUD) has prepared this Phase I Environmental Site Assessment (ESA) report for the OPUD 30-acre acquisition project. The Subject Property is located southeast of the Olivehurst Wastewater Treatment Plant (WWTP), in Olivehurst, Yuba County, California. Refer to **Plate 1: Site Location** and **Plate 2: Site Map.**

This ESA was prepared for use by OPUD as the potential purchaser of the Subject Property and as the User of the Phase I ESA. Padre understands that OPUD is considering purchasing the Subject Property for future expansion of the WWTP.

This Phase I ESA was completed in accordance with the guidelines outlined in the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments promulgated in 2013 (ASTM E1527-13) with the inclusion of general modifications and revisions outlined in the recently revised and updated ASTM Standard Practice dated November 1, 2021 (ASTM E1527-21), and the U.S. Environmental Protection Agency's All Appropriate Inquiry (AAI). The objective of the ESA was to evaluate whether current or previous land use at or adjacent to the Subject Property may have involved, or resulted in the use, storage, disposal, treatment, and/or release of hazardous substances to the environment, resulting in the determination of a Recognized Environmental Condition (REC) at the Subject Property. A REC is defined by the updated ASTM E1527-21 as *(1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; and (3) the presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment.* The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de-minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Additional key definitions from the updated ASTM E1527-21 standard include the following:

- Activity Use Limitation (AUL) - legal or physical restrictions or limitations on the use of, or access to, a site or facility: (a) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil, soil vapor, groundwater, and / or surface water on the property, or (b) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment.
- *Controlled Recognized Environmental Condition (CREC)* - recognized environmental condition affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (i.e., activity and use limitations or other property use limitations).

- *Environment* - includes navigable waters, the waters of the contiguous zone, and the ocean waters; and any other surface water, groundwater, drinking water supply, land surface, or subsurface strata. It should be noted that this ESA did not include a survey of asbestos-containing materials (ACM) or lead-based paint (LBP), nor did it include sampling and chemical analysis of any environmental media at the Subject Property.
- *Historical Recognized Environmental Condition (HREC)* - a previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations, or other property use limitations). It should be noted that an HREC is not a Recognized Environmental Condition.
- *Migrate / Migration* - refers to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface and subsurface, and vapor in the subsurface.
- *Property Use Limitation (PUL)* - limitation or restriction on current or future use of a property in connection with a response to a release, in accordance with the applicable regulatory authority or authorities that allow hazardous substances or petroleum products to remain in place at concentrations exceeding unrestricted use criteria.

To achieve the objective of the ESA, the following tasks were completed:

- A review of readily available geologic and hydrogeologic literature;
- Historical research including a review of available historical aerial photographs, Sanborn Fire Insurance Maps, historical city directories, and historical topographic maps relating to the Subject Property;
- A site reconnaissance of the Subject Property and adjacent properties;
- Interviews with knowledgeable persons of the Subject Property;
- Public agency records review;
- An environmental database search; and
- The preparation of this report presenting the results of the ESA.

Seven appendices are included in this report. Appendix A presents the assessor's parcel map and Flood Insurance Rate Map; Appendix B presents historical aerial photographs and topographic maps; Appendix C presents photographs of the Subject Property at the time of the assessment; Appendix D presents a copy of the completed environmental questionnaire; Appendix E presents a copy of the pesticide-use reports; Appendix F presents the environmental database report obtained from EDR for the Subject Property; and Appendix G presents the presents the qualifications of the environmental assessor responsible for report preparation.

2.0 ENVIRONMENTAL SETTING

The following discussion summarizes the geologic, hydrogeologic, and other relevant data pertaining to the physical setting of the Subject Property.

2.1 SITE LOCATION AND DESCRIPTION

The Subject Property is located in Section 17, Township 14 North, Range 4 East of the U.S. Geological Survey (USGS) 7½ Minute topographic series, Olivehurst Quadrangle Map (1973). The approximate latitude and longitude near the center of the property are identified as:

- Latitude (North) 39.061006°, (39° 3' 40" N)
- Longitude (West) -121.548779°, (121° 32' 56" W)

The Subject Property consists of approximately 30-acres of land planted with and almond orchard. The Subject Property is identified by the Yuba County Assessor's Office as Assessor Parcel Number (APN): 014-270-109-000. A copy of the assessor's parcel map is presented in **Appendix A**.

2.2 TOPOGRAPHY

Based on a review of the USGS 7.5-minute topographic quadrangle – Olivehurst, California (1973), the Subject Property is relatively level and situated at an approximate elevation of 60-feet above mean sea level (amsl). The Subject Property is relatively flat. Typically, rainfall would infiltrate into the surface soil, and stormwater runoff would be directed southeast towards the adjacent stormwater detention basin.

2.3 GEOLOGY AND HYDROLOGY

The Subject Property is located near the eastern boundary of the Great Valley Geomorphic Province. The Great Valley geomorphic province, a north-south trending valley, approximately 400 miles long by 50 miles wide, the northern portion of which is known as the Sacramento Valley. The surface of the Sacramento Valley is composed primarily of unconsolidated Pleistocene (1.6 million to 11,000 years ago) and recent (11,000 years ago to the present) alluvial sediments. These lie unconformably on Mio-Pliocene, marine sediments, which extend to a crystalline basement at a depth of approximately 20,000 feet (Norris and Webb, 1990).

According to the Department of Conservation California Geologic Survey Geologic Map of the Chico Quadrangle, California (1992), the Subject Property is underlain by Pleistocene Riverbank Formation. The Riverbank Formation (deposited) between 130,000 to 450,000 years ago) consists of poorly-to-highly permeable pebble and small cobble gravels interlensed with reddish clay sands and silt. The formation ranges from less than one foot to over 200 feet thick depending on location (DWR Groundwater Bulletin 118, 2004).

According to the United States Department of Agriculture (USDA) Soil Conservation Service, Soil Survey of Yuba County, California (1998), the soils at the Subject Property are comprised of San Joaquin loam. San Joaquin loam (0 to 1 % slopes) consists of a moderately

well-drained soil located on low fan terraces and formed in alluvium derived from mixed sources. The vegetation in uncultivated areas is mainly annual grasses and forbs. The average annual precipitation is 18 to 22 inches. Typically, the surface layer is light brown loam about 4 inches thick. The upper 12 inches of the subsoil is strong brown loam. The lower 9 inches is brown clay. An indurated hardpan is at a depth of 25 inches. Permeability is very slow and the available water capacity is 2.5 to 3 inches. The shrink-swell potential is high, runoff is very slow and the hazard of water erosion is slight.

According to the Yuba County Water Agency (YCWA), Groundwater-Data-Portal, State Well I.D. #14N04E20H001M, located approximately 0.8-miles south of the Subject Property, the depth to groundwater was recorded at approximately 15- to 30-feet below ground surface (bgs), January 2020 and December 2024 (https://www.yubawater.org/399/Yuba-Water-Groundwater-Data-Portal).

2.4 FLOODPLAIN

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (*Community Panel Number: 06115C0420D, Effective Date: February 18, 2011),* the Subject Property is located in Zone X (Area of Reduced Flood Risk Due to Levee). A copy of the FEMA Flood Insurance Rate Map is presented in **Appendix A**.

2.5 RADON

Radon is a colorless, odorless, tasteless, and radioactive gas that is produced as a natural decay product of uranium. Because of its radioactivity, studies have shown that at elevated concentrations there is a link between radon and lung cancer. Persons living in a building with elevated radon concentrations may have an increased risk of contracting lung cancer over a period of years.

The U.S. Environmental Protection Agency (U.S. EPA) recommends that action be taken to reduce radon levels in homes if levels are 4.0 pico curies per Liter (pCi/L) or higher. Radon levels below 4.0 pCi/L still pose a certain level of risk. Sections 307 and 309 of the Indoor Radon Abatement Act of 1988 (IRAA) directed the U.S. EPA to list and identify areas of the United States with the potential for elevated indoor radon levels. The U.S. EPA's Map of Radon Zones assigns each of the 3,141 counties in the U.S. to one of three zones based on radon potential:

- Zone 1 (red) counties have a predicted average indoor radon screening level greater than 4 pCi/L (highest potential);
- Zone 2 (orange) counties have a predicted average indoor radon screening level between 2 and 4 pCi/L (moderate potential);
- Zone 3 (yellow) counties have a predicted average indoor radon screening level less than 2 pCi/L (lowest potential).

According to the U.S. EPA map of California radon zones, Yuba County is identified as a Zone 2 (orange) county. Zone 2 counties have a predicted average indoor radon screening level greater than 2 pCi/L and less than 4 pCi/L. According to the California Indoor Radon Test Results

website, there is no data for Zip Code 95961. According to the EDR Database Report, Federal Area Radon Information reports that 14 sites were tested, with an average radon level of 1.250 pCi/L for the 1st floor living area. Therefore, the potential for radon hazard at the Subject Property is considered low and is dependent on site-design and building construction specifications.

2.6 OIL AND GAS WELLS

The California Geologic Energy Management Division (CalGEM) oversees the drilling, operation, maintenance, and plugging and abandonment of oil wells, natural gas wells, and geothermal wells. The CalGEM regulatory program emphasizes the wise development of oil, natural gas, and geothermal resources in the state of California through sound engineering practices that protect the environment, prevent pollution, and ensure public safety. Padre reviewed the available CalGEM online mapping system for the Subject Property at the California Department of Conservation webpage (https://www.conservation.ca.gov/calgem/). According to a review of the CalGEM online database and interactive map, there are no reported oil wells, natural gas wells, and/or geothermal wells located within a one-mile radius of the Subject Property.

2.7 NATURALLY OCCURRING ASBESTOS (NOA)

Asbestos is a naturally occurring silicate mineral of the amphibole group that has Asbestos is a naturally occurring silicate mineral of the amphibole group that has historically been utilized for a variety of purposes including fireproofing, due to its fibrous nature, which allowed it to be woven into cloth and formed into various types of construction material. Asbestos is a known carcinogen.

According to the California Department of Conservation, Division of Mines and Geology, Open-File Report 2000-19, dated August 2000, natural occurrences of asbestos are more likely to be encountered in, and immediately adjacent to, areas of ultramafic outcrops (igneous and metamorphic rocks with high iron and magnesium contents).

According to the Department of Conservation California Geologic Survey Geologic Map of the Chico Quadrangle, California (1992), there are no exposures of potentially asbestos-bearing ultramafic or serpentinized rocks located approximately 10 miles of the Subject Property. Therefore, the potential for NOA to be present at the Subject Property from weathering and deposition of ultrabasic rock originating from outcrops is not considered a REC.

2.8 EARTHQUAKE FAULT ZONES

In 1972 the State of California passed the Alquist-Priolo Earthquake Fault Zoning Act (AP Act) to mitigate the hazard of surface faulting to structures utilized for human occupancy. The AP Act's primary purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The AP Act defines three categories of fault activity; active (demonstrated movement within the last 11,000 years), potentially active (movement within the past 11,000 to 2,000,000 years), and inactive (no movement within the past 2,000,000 years).

Since 1972 the California Geological Survey (CGS) has issued a series of 1"=2,000' scale maps delineating Earthquake Fault Zones (EFZs). Structures proposed within mapped EFZs require geologic investigations to demonstrate that the structures will not be constructed across active faults. If an active fault is identified within the boundaries of the Subject Property, the proposed structures must be set back from the EFZ, generally a distance of 50 feet on either side of the identified fault location. The CGS mapping program is ongoing, and areas not currently identified as being within an EFZ may be included at some later time.

According to the EFZ maps issued by the CGS, the Subject Property is not located within the boundaries of an EFZ, and no active faults are known to cross the Subject Property.

3.0 HISTORICAL SITE CONDITIONS

Based on a review of readily available historical information, Padre has compiled the following history of the Subject Property. The earliest documentation reviewed for site usage was an aerial photograph dated 1937 and a topographic map dated 1888. Copies of historical aerial photographs and topographic maps are presented in **Appendix B**.

3.1 HISTORICAL AERIAL PHOTOGRAPHS

Padre reviewed readily available aerial photographs of the Subject Property, and the surrounding area obtained from EDR for the years 1937, 1947, 1952, 1962, 1973, 1984, 1998, 2006, 2016, and 2020. The information is summarized below:

1937 The 1937 photograph shows the Subject Property as undeveloped land. There is an irrigation canal running north-south along the western property boundary. South of the Subject Property the irrigation canal turns and runs in an east-west direction. Railroad tracks are present west of the Subject Property, running in a north-south direction. The surrounding area appears undeveloped.

1947 The 1947 photograph shows the Subject Property and surrounding areas similar to the 1937 photograph. There are three farm residences located south of the Subject Property.

1952 The 1952 photograph shows the Subject Property to contain multiple grading contours associated with agricultural activity. The surrounding areas indicated agricultural activity.

1962 The 1962 photograph shows the Subject Property and surrounding areas similar to the 1952 photograph.

1973 The 1973 photograph shows the Subject Property to be part of a larger graded agricultural field and void of the previous contours. Surrounding areas also appear uniformly graded agricultural fields. What is now State Hwy 70 is present to the east.

1984 The 1984 photograph shows the Subject Property as agricultural land. The OPUD facility appears present to the north. Surrounding property remains in agricultural use.

1998 The 1998 photograph shows the Subject Property and surrounding areas similar to the 1984 photograph.

2006 The 2006 photograph shows the Subject Property similar to the 1998 photograph. The detention basin located adjacent and southeast of the Subject Property appears to be under construction.

2016 The 2016 photograph shows the Subject Property to be irrigated land, based on the green color of the photograph. The adjacent detention basin to the southeast appears to be completed.

2020 The 2020 photograph shows the Subject Property planted with trees in equally spaced rows. The surrounding area appears similar to the 2016 photograph.

3.2 UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHIC MAPS

Padre obtained historical topographic maps published by the USGS for the vicinity of the Subject Property. Historical topographic maps dated 1888, 1895, 1911, 1952, 1973, 2012, and 2021 were reviewed. A summary of the information presented on each map is presented below.

1888 The 1888 map shows the Subject Property and surrounding properties as undeveloped land. Reeds Creek is depicted to the east and further out to the northeast is a railroad track.

1895 The 1895 map shows the Subject Property and surrounding areas similar to the 1888 map. A building/residence is present further out to the northwest.

1911 The 1911 map shows the Subject Property similar to the 1895 map. West of the Subject Property, Pacific railroad tracks are depicted running in a north-south direction.

1952 The 1952 map shows the Subject Property undeveloped except for an irrigation canal along the west and southern boundaries. An unimproved road is present to the east, running in a north-south direction. Several residences are present futher out to the south and the area is labeled East Arboga.

1973 The 1973 map shows the Subject Property as undeveloped. New development is depicted to the north, which is the current OPUD facility.

2012 The 2012 map shows the Subject Property as undeveloped. This map only shows roads and water ways. No structures are depicted.

2021 The 2021 map shows the Subject Property as undeveloped. The detention basin is depicted adjacent and southeast of the Subject Property.

3.3 HISTORICAL SANBORN FIRE INSURANCE MAPS

The complete Sanborn Library collection was searched by EDR for the Subject Property. According to EDR, there are no fire insurance maps covering the Subject Property.

3.4 CITY DIRECTORIES

Padre obtained an EDR City Directory Report, which searched for physical addresses for the Subject Property and cross-street Purple Martin Road in Olivehurst, California 95961. Search years included 1971 through 2020. A review of the available city directories did not identify any RECs for the Subject Property.

3.5 ENVIRONMENTAL LIENS

Padre reviewed the EDR Environmental Lien and activity use limitations (AULs) search report of available current land title records for environmental cleanup liens and other AULs such as engineering controls and institutional controls. No environmental liens or AULs were identified for the Subject Property. The Subject Property is currently owned by Manbirpaul Dhillion and Mandish Dhillion (husband and wife) as joint tenants.

3.6 EXISTING ENVIRONMENTAL REPORTS

Padre was not provided with, nor did it identify the presence of existing environmental reports for the Subject Property.

4.0 CURRENT SITE CONDITIONS

The current site conditions were assessed to determine current activities and hazardous substances handling and storage at the Subject Property.

4.1 SITE RECONNAISSANCE

On December 20, 2024, Mr. Alan Klein with Padre conducted a site reconnaissance of the Subject Property. The Subject Property was accessed by an adjacent gate located at the southwest corner of the OPUD WWTP. The site reconnaissance consisted of walking around the property and photographing site features. Adjacent properties were also observed and photographed from the property boundaries. At the time of the inspection weather conditions were foggy and cold.

The Subject Property consists of an almond orchard with drip irrigation. The Subject Property is bordered to the southeast by the Yuba County South Olivehurst Stormwater Detention Basin. The Subject Property is bordered to the west and south by an irrigation canal; to east by State Hwy 70; and to the north by the OPUD WWTP and almond orchards.

An abandoned pickup truck size camper shell was observed in the southwest corner of the Subject Property. Three (3) abandoned refrigerators were observed near the northwest portion of the Subject Property. These units appear to be located on the adjacent property (detention basin). No leaking of fluids or soil staining was observed. No petroleum and/or chemical containers were observed, no petroleum and/or chemical stained soils were observed, and no aboveground or indications of underground petroleum storage tanks were observed at the Subject Property. In addition, no pole-mounted or pad-mounted electrical transformers were observed on or adjacent to the Subject Property. Photographs taken during the course of the site reconnaissance are presented in **Appendix C**.

4.2 UTILITIES

Pacific Gas & Electric (PG&E) provides electricity and natural gas to the community of Olivehurst. The Olivehurst Public Utility District (OPUD) provides for the distribution of potable water and the collection and treatment of wastewater to the community.

4.3 ASBESTOS-CONTAINING MATERIALS

Padre did not conduct a comprehensive Asbestos-Containing Materials (ACM) survey as part of this Phase I ESA. Properties with residential and/or commercial structures constructed before 1976 may potentially contain ACM. The mitigation and management of ACM is currently regulated by several federal, state, and local agencies.

There currently are no building structures located on the Subject Property, and Padre did not identify the occurrence of former building structures. Therefore, the potential for ACM from building structures/materials at the Subject Property is not considered a REC.

4.4 LEAD-BASED PAINT

Properties containing structures with paint or surface coatings, with the exception of residential structures constructed on or after January 1, 1979 or schools constructed prior to January 1, 1993, may have surfaces coated with lead-based paint. Weathering, scraping, chipping, and abrasion may result in lead to be released to and accumulate in soil around these structures. Therefore, the California Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup Division recommends the collection of soil samples to determine if the potential presence of residual lead soil contamination poses a threat to human health and the environment.

There currently are no building structures located on the Subject Property, and Padre did not identify the occurrence of former building structures. Therefore, the potential for lead-based paint from structures/materials at the Subject Property is not considered a REC.

4.5 POLYCHLORINATED BIPHENYLS

Padre did not conduct a comprehensive polychlorinated biphenyls (PCBs) survey as part of this Phase I ESA. The federal Toxic Substances Control Act (TSCA) generally prohibited the domestic manufacturing of polychlorinated biphenyls (PCBs) after 1979; however, hydraulic fluids

or dielectric insulating fluids typically found in electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain PCBs if such materials have been present prior to the late 1970s. EPA regulations require that encapsulated surfaces be marked with the yellow "Caution Contains PCBs" sticker typically used for labeling PCB Transformers (less than 500 parts per million (ppm)).

No pole-mounted or pad-mounted electrical transformers were observed on or adjacent to the Subject Property. Therefore, the potential presence of PCBs in soil at the Subject Property is not considered a REC.

4.6 AGRICULTURAL-USE

A review of historical aerial photographs and topographic maps indicates that the Project Site and surrounding area have been used for agricultural purposes from at least 1952. Typically, agricultural production property uses pesticides that are uniformly applied consistent with normal application practices. Historically, these pesticides were biopersistent in the environment (i.e., organochlorine pesticides). Therefore, the potential for residual pesticides in soil from historic agricultural use at the Project Site is considered a REC.

4.7 ENVIRONMENTAL QUESTIONNAIRE

A Subject Property Environmental Questionnaire was completed by the property owner Mr. Manbirpaul Dhillion. According to Mr. Dhillion, he has owned the Subject Property since 2018. The Subject Property is used for agriculture and is irrigated by a private water well not located on the property. No buildings are currently or historically present on the property. Listed pesticides and herbicides used during the years 2022 – 2024 include: Scala Fungicide, Roundup, Dupont Altacor, BiFentore Insecticide, Vigilant Miteacide, and Quadro Top. Mr. Dhillion is not aware of any chemical spills; landfills and/or burn pits; or the presence of underground or aboveground fuel storage tanks at the Subject Property. A copy of the completed environmental questionnaire is presented in **Appendix D**.

4.8 SURROUNDING PROPERTIES

The Subject Property is bordered to the north by the OPUD WWTP and adjacent almond orchard; to the east by a levee and State Hwy 70; to the south by the Yuba County South Olivehurst Stormwater Detention Basin and adjacent irrigation canal; and to the west by a levee and irrigation canal.

5.0 ENVIRONMENTAL RECORDS REVIEW

Padre contacted the regulatory agencies in the region to determine if soil and groundwater contamination is known or suspected at or near the Subject Property. Regulatory agency databases were obtained from EDR for the Subject Property and properties within one mile.

5.1 PUBLIC RECORDS REVIEW AND AGENCY CONTACTS

Padre contacted the following local agencies for information concerning environmental complaints, accidents, or spills on or in the vicinity of the Subject Property and for safety concerns related to school sites in California.

5.1.1 Yuba County Agricultural Commissioner

Padre contacted the Yuba County Agricultural Commissioner (YCAC) and requested pesticide-use permits for the Subject Property. Pesticide-use reports for the Subject Property for the years 2019, 2020, 2022, 2023, and 2024 were provided by Shae Harris, Agricultural Weights & Measures Specialist III with the YCAC. The permits indicate that fungicides, herbicides and insecticides were used on 95-acres of "Almonds" and were applied by aviation. No permit violations were reported. Copies of the pesticide-use permits are presented in **Appendix E**.

5.1.2 State Water Resources Control Board

The State Water Resources Control Board (SWRCB) maintains public information pertaining to Cleanup Program Sites (CPS) and Leaking Underground Storage Tank (LUST) sites through their online database identified as GeoTracker. The Subject Property is not identified in the GeoTracker database. In addition, no properties within a ½-mile radius are identified in the GeoTracker database that presents a REC to the Subject Property.

5.1.3 California Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) maintains the Envirostor database for known or suspected hazardous waste sites in California. The Subject Property is not identified in the Envirostor database. In addition, no properties within a 1-mile radius are identified in the Envirostor database that presents a REC to the Subject Property.

5.2 ENVIRONMENTAL DATABASE INFORMATION

Padre obtained environmental agency database information from EDR. The EDR report is included as **Appendix F**. The databases were reviewed to identify registrations and documented environmental incidents regarding the site and nearby properties within a one-mile radius of the Subject Property. Padre also attempted to locate unplottable sites that EDR did not locate because of incomplete or incorrect address information. The following sections summarize our findings.

5.2.1 National Priorities List - Federal Superfund

The National Priorities List is a U.S. Environmental Protection Agency (U.S. EPA) listing of private, state, and federally owned sites which have been included on the federal Superfund list for remediation.

- Neither the Subject Property nor properties located within a 1-mile radius are identified on the Nation Priorities List.

5.2.2 U.S. Superfund Enterprise Management System (SEMS)

The U.S. EPA's SEMS Listings (formerly known as CERCLIS) are a compilation of sites that have been brought to the attention of the U.S. EPA, through various means, as being possible sites of hazardous waste activity. The SEMS listings are an information database and not necessarily an action list.

- Neither the Subject Property nor properties located within a 1-mile radius are identified on the SEMS List.

5.2.3 RCRA-TSDF

The U.S. EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA-Transportation, Storage, and Disposal Facilities (TSDF) database is a compilation by the U.S. EPA of reporting facilities that transport, treat, store, or dispose of hazardous waste.

- Neither the Subject Property nor properties located within a ½-mile radius of the Subject Property are identified on the RCRA-TSDF List.

5.2.4 RCRA - LQG's

The U.S. EPA's RCRA Program identifies and tracks large quantity generators (LQG's). LQG's generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg acutely hazardous waste per month.

- Neither the Subject Property nor properties located within a ¼-mile radius of the Subject Property are identified on the RCRA-LQG's List.

5.2.5 RCRA - SQG's

The U.S. EPA's RCRA Program identifies and tracks small quantity generators (SQG's). SQG's generate between 100 kg and 1,000 kg of hazardous waste per month.

- Neither Subject Property nor properties located within a ¼-mile radius are identified on the RCRA-SQG's List.

5.2.6 Emergency Response Notification System

The Emergency Response Notification System (ERNS) contains records on releases of oil and hazardous substances reported to the U.S. EPA and National Response Center of the U.S. Coast Guard.

- The Subject Property is not identified on the ERNS List.

5.2.7 RCRA-CORRACTS Facilities

The U.S. EPA's Resource Conservation and Recovery Act (RCRA) Corrective Action Sites Listing contains information pertaining to hazardous waste treatment, storage, and disposal

facilities (RCRA TSD) which have conducted, or are currently conducting, a corrective action(s) as regulated under RCRA.

- Neither the Subject Property nor properties located within a 1-mile radius of the Subject Property are identified on the RCRA-CORRACTS List.

5.2.8 CA SWF/LF

State and Tribal; landfill and/or solid waste disposal site listings. The Solid Waste Facility/Landfill facility (SWF/LF), solid waste information system (SWIS) maintains records of active, closed and inactive landfills.

- Neither the Subject Property nor properties located within a ½-mile radius are identified on the CA SWF/LF List.

5.2.9 UST

USTs are regulated under Subtitle I of RCRA and must be registered with the state department responsible for administering the UST program. In California, the State Water Resources Control Board has compiled a listing of UST sites. Active UST facilities lists are gathered from local regulatory agencies.

- Neither the Subject Property nor properties located within a ¼-mile radius are identified on the UST.

5.2.10 Historical UST

The Hazardous Substance Storage Container Database is a historical listing of UST sites and is maintained by the California State Water Resources Control Board.

- Neither the Subject Property nor properties located within a ¼-mile radius are identified on the Historical UST List.

5.2.11 CA FID UST

The California Facility Inventory Database (CA FID) UST contains a historical listing of active and inactive underground storage tank locations from the State Water Resources Control Board.

- Neither the Subject Property nor properties located within a ¼-mile radius are identified on the CA FID UST List.

5.2.12 Leaking Underground Storage Tank

The California Regional Water Quality Control Board is the agency with jurisdiction over leaking underground storage tanks (LUSTs) in the region of the site.

- Neither the Subject Property nor properties located within a ½-mile radius are identified on the LUST list.

5.2.13 AST List

The Aboveground Storage Tank (AST) lists facilities with registered aboveground petroleum storage tanks, compiled by the State Water Resources Control Board (SWRCB).

- Neither the Subject Property nor properties located within a ¼-mile radius of the Subject Property are identified on the AST List.

5.2.14 US Eng Controls

The US Engineering Controls list consists of sites with engineering controls in place that include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

- Neither the Subject Property nor properties located within a ½-mile radius are identified on the US ENG Controls List.

5.2.15 US Inst Controls

The US Institutional Controls list consists of sites with institutional controls in place that include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining onsite. Deed restrictions are generally required as part of institutional controls.

- Neither the Subject Property nor properties located within a ½-mile radius are identified on the US INST Controls List.

5.2.16 Historic Cal-Sites

The State of California Historic Cal-Sites database contains potential or confirmed hazardous substance release properties. In 1996, the California Environmental Protection Agency reevaluated and significantly reduced the number of sites in the Cal-sites database.

- Neither the Subject Property nor properties located within a 1-mile radius of the Subject Property are identified on the Historic Cal-Sites List.

5.2.17 WMUD/SWAT

The Waste Management Unit Database System (WMUDS) is used by the State Water Resources Control Boards for program tracking and inventory of waste management units. The Solid Waste Assessment Test Program (SWAT) is a database maintained by the California Water Resources Control Board for information on the ground water monitoring of sanitary landfills.

- Neither the Subject Property nor properties located within a ½-mile radius are identified on the WMUDS/SWAT List.

5.2.18 California Hazardous Materials Incident Reporting System

The California Hazardous Materials Incident Reporting System (CHMIRS) is maintained by the California Office of Emergency Services (OES) and contains information on reported hazardous materials accidental releases or spills.

- The Subject Property is not identified on the CHMIRS List.

5.2.19 CERCLIS-NFRAP

The Comprehensive Environmental Response, Compensation, and Liability Information System - No Further Remedial Action Planned (CERCLIS-NFRAP) database is a list of sites that were removed CERCLIS in 1995. These sites may have been removed due to the following: after an initial investigation, no contamination was found; contamination was removed quickly without the need to place the site on the NPL; or the contamination was not serious enough to require Federal Superfund action or NPL consideration. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

- Neither the Subject Property nor properties located within a ½ -mile radius of the Subject Property are identified on the CERCLIS-NFRAP List.

5.2.20 Voluntary Cleanup Program

The Voluntary Cleanup Program database is maintained by the Department of Toxic Substances Control (DTSC). The VCP database contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have requested that DTSC oversee the investigation and/or cleanup activities and have agreed to provide coverage for DTSC's Costs.

- Neither the Subject Property nor properties located within a ½ -mile radius of the Subject Property are identified on the VCP List.

5.2.21 Hazardous Waste Information System

The Hazardous Waste Information System (HAZNET) database is developed from copies of hazardous waste manifests required for proper disposal of wastes and received each year by the DTSC.

- Neither the Subject Property nor any other property within a 1-mile radius is identified on the HAZNET List

5.2.22 California SLIC Program

The California SLIC (Spills, Leaks, Investigations, and Cleanup) is designed to protect and restore water quality from spills, leaks and similar discharges. The database is maintained by the State Water Resources Control Board (SWRCB).

- Neither the Subject Property nor properties located within a ½-mile radius of the Subject Property are identified on the SLIC List.

5.2.23 CERS HAZ WASTE

The California Environmental Protection Agency (CalEPA) lists sites which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA Hazardous Waste Generator programs.

- Neither the Subject Property nor properties located within a ¼-mile radius of the Subject Property are identified on the CERS HAZ WASTE List.

5.2.24 ENVIROSTOR

The DTSC Site Mitigation and Brownfields Reuse Program (SMBRPs) maintain a database that identifies sites that have known contamination or sites for which there may be reasons to investigate further.

- The Subject Property is not identified on the ENVIROSTOR List.
- One property located within a 1-mile radius of the Subject Property is identified on the ENVIROSTOR List.

Arboga Elementary School, located at 1686 Broadway Road is located approximately 0.6-miles southwest of the Subject Property. A Preliminary Environmental Assessment (PEA) was completed in 2009 for pesticides in the area of former portable classrooms. A “housekeeping” activity removed 6 cubic-yards of impacted soil. On April 13, 2010 DTSC approved “No Further Action”. Therefore, this facility is not considered a REC to the Subject Property.

6.0 SUMMARY AND CONCLUSIONS

Based on the results of the scope of services performed for this Phase I ESA, Padre has prepared the following summary and conclusions regarding the Subject Property.

6.1 CURRENT CONDITIONS AND HISTORIC SITE BACKGROUND

The Subject Property consists of approximately 30-acres of land planted with almond trees. The Subject Property is identified by the Yuba County Assessor’s Office as APN: 014-270-109-000.

According to FEMA Flood Insurance Rate Map (*Community Panel Number: 06115C0420D, Effective Date: February 18, 2011),* the Subject Property is located in Zone X (Area of Reduced Flood Risk Due to Levee).

According to the EFZ maps issued by the CGS, the Subject Property is not located within the boundaries of an EFZ, and no active faults are known to cross the Subject Property (Jennings 2010).

Based on historic aerial photographs and topographic maps, it appears that the Subject Property has been in agricultural use since at least 1952.

Padre completed a site reconnaissance on December 20, 2024. The Subject Property consisted of an almond orchard with drip irrigation. The Subject Property is bordered to the southeast by the Yuba County South Olivehurst Stormwater Detention Basin. The Subject Property is bordered to the west and south by an irrigation canal; to east by State Hwy 70; and to the north by the OPUD WWTP and almond orchards. During the site reconnaissance, no petroleum and/or chemical containers or stained soils were observed at the Subject Property, and no aboveground or indications of underground petroleum storage tanks were observed.

Padre contacted the YCAC and requested pesticide-use permits for the Subject Property. Pesticide-use reports for the Subject Property for the years 2019, 2020, 2022, 2023, and 2024 were provided by Shae Harris, Agricultural Weights & Measures Specialist III with the YCAC. The permits indicate that fungicides, herbicides and insecticides were used on 95-acres of “Almonds” and were applied by aviation. No permit violations were reported.

The SWRCB maintains public information pertaining to CPS and LUST sites through their online database identified as GeoTracker. The Subject Property is not identified in the GeoTracker database. In addition, no properties within a ½-mile radius are identified in the GeoTracker database that presents a REC to the Subject Property.

The California DTSC maintains the Envirostor database for known or suspected hazardous waste sites in California. The Subject Property is not identified in the Envirostor database. In addition, no properties within a 1-mile radius are identified in the Envirostor database that presents a REC to the Subject Property.

Padre reviewed the EDR Environmental Lien and AULs search report of available current land title records for environmental cleanup liens and other AULs such as engineering controls and institutional controls. No environmental liens or AULs were identified for the Subject Property.

A review of the EDR Radius Map Report did not identify facilities in the database records search within a one-mile radius of the Subject Property that present a REC to the Subject Property.

6.2 DATA GAPS

All the areas of the Subject Property were accessible to Padre. The information obtained and available to Padre during the preparation of this Phase I ESA is considered acceptable and complete. In general conformance with the scope and limitations of the ASTM E1527-21 Standard, Padre did not identify any significant data gaps in completing this Phase I ESA.

6.3 RECOGNIZED ENVIRONMENTAL CONDITIONS

A review of historical aerial photographs and topographic maps indicates that the Project Site and surrounding area have been used for agricultural purposes since at least 1952. Typically, agricultural production property uses pesticides that are uniformly applied consistent

with normal application practices. Historically, these pesticides were biopersistent in the environment (i.e., organochlorine pesticides). Therefore, the presence of residual pesticides in soil from historic agricultural use at the Project Site is considered a potential REC. Depending on the future use of the Subject Property (i.e., residential land-use) soil sampling for organochlorine pesticides is recommended.

6.4 CERTIFICATION

We declare that, to the best of our professional knowledge and understanding, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR §312. Additionally, we have the specific qualifications based on education, training, and experience to assess the nature, setting, and of the subject property. We have performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part §312. Qualifications of the environmental assessors responsible for the preparation of this report are presented in **Appendix G**.

7.0 LIMITATIONS

This report has been prepared for the sole benefit of Environmental Planning Partners (EPP) and the Olivehurst Public Utility District (OPUD). No other person(s) may rely on the findings of this report without the expressed written consent of EPP, OPUD, and Padre Associates, Inc. In performing our professional services, we have attempted to apply present engineering and scientific judgment and use a level of effort consistent with the standard of practice measured on the date of work and in locale of the Subject Property for similar type studies. Padre Associates, Inc. makes no warranty, express or implied.

The analyses and interpretations presented in this report have been developed based on the results from the review of existing information pertaining to the Subject Property.

The ASTM Standard Practice E 1527-13 and E 1527-21 recognize inherent limitations for Phase I ESAs, including, but not limited to:

- *Uncertainty Not Eliminated.* A Phase I ESA cannot completely eliminate uncertainty regarding the potential for *recognized environmental conditions* in connection with any property.
- *Not Exhaustive.* A Phase I ESA is not an exhaustive investigation of the Subject Property and environmental conditions on such Subject Property.
- *Past Uses of the Property.* Phase I requirements only require review of standard historical sources at five-year intervals if readily available. Therefore, past uses of the Property at less than five-year intervals may not be discovered.

Users of this report may refer to ASTM Standard Practice E 1527-13 and E 1527-21 for further information regarding these and other limitations. This report is not definitive and should not be assumed to be a complete and/or specific definition of all conditions above or below grade.

Current subsurface conditions may differ from the conditions determined by surface observations, interviews and reviews of historical sources. The most reliable method of evaluating subsurface conditions is through intrusive techniques, which are beyond the scope of this report. Information in this report is not intended to be used as a construction document and should not be used for demolition, renovation, or other Property construction purposes. Any use of this report by any party, beyond the scope and intent of the original parties, shall be at the sole risk and expense of such user.

Padre makes no representation of or warranty that the past or current operations at the Subject Property are, or have been, in compliance with all applicable federal, state and local laws, regulations and codes. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated. Regardless of the findings stated in this report, Padre is not responsible for consequences or conditions arising from facts not fully disclosed to Padre during the assessment.

An independent data research company provided the government agency database referenced in this report. Information on surrounding area properties was requested for approximate minimum search distances and is assumed to be correct and complete unless obviously contradicted by Padre's observations or other credible referenced sources reviewed during the assessment. Padre shall not be liable for any such database firm's failure to make relevant files or documents properly available, to properly index files, or otherwise to fail to maintain or produce accurate or complete records.

Padre used reasonable efforts to identify evidence of aboveground and underground storage tanks and ancillary equipment on the Subject Property during the assessment. "Reasonable efforts" were limited to observation of accessible areas, review of referenced public records and interviews. These reasonable efforts may not identify subsurface equipment or evidence hidden from view by objects including, but not limited to, paving, construction activities, stored materials, and landscaping.

-- o –

8.0 REFERENCES

California Department of Public Health, Indoor Radon Program (https://www.cdph.ca.gov/Programs/CEH/DRSEM/Pages/EMB/Radon/Radon.aspx)

California Department of Toxic Substances Control, Envirostor Database.

California Department of Water Resources (http://www.water.ca.gov/waterdatalibrary/)

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Environmental Data Resources, Inc., Aerial Photo Decade Package and Historic Topo Map Report.

Federal Emergency Management Agency, *Flood Insurance Rate Map- Community Panel Number: 06115C0420D, Effective Date: February 18, 2011.*

Jennings, C.W. (1994), *Fault Activity Map of California and Adjacent Areas, with Locations and Ages of Recent Volcanic Eruptions, Scale 1:750,000*, California Division of Mines and Geology Geologic Data Map No. 6.

Jennings and Bryant, 2010, *Fault Activity Map of California*, California Geological Survey.

Norris, R. M., & R. W. Webb, 1976 (Second Edition 1990), *Geology of California*, John Wiley & Sons, New York, pp. 412-427.

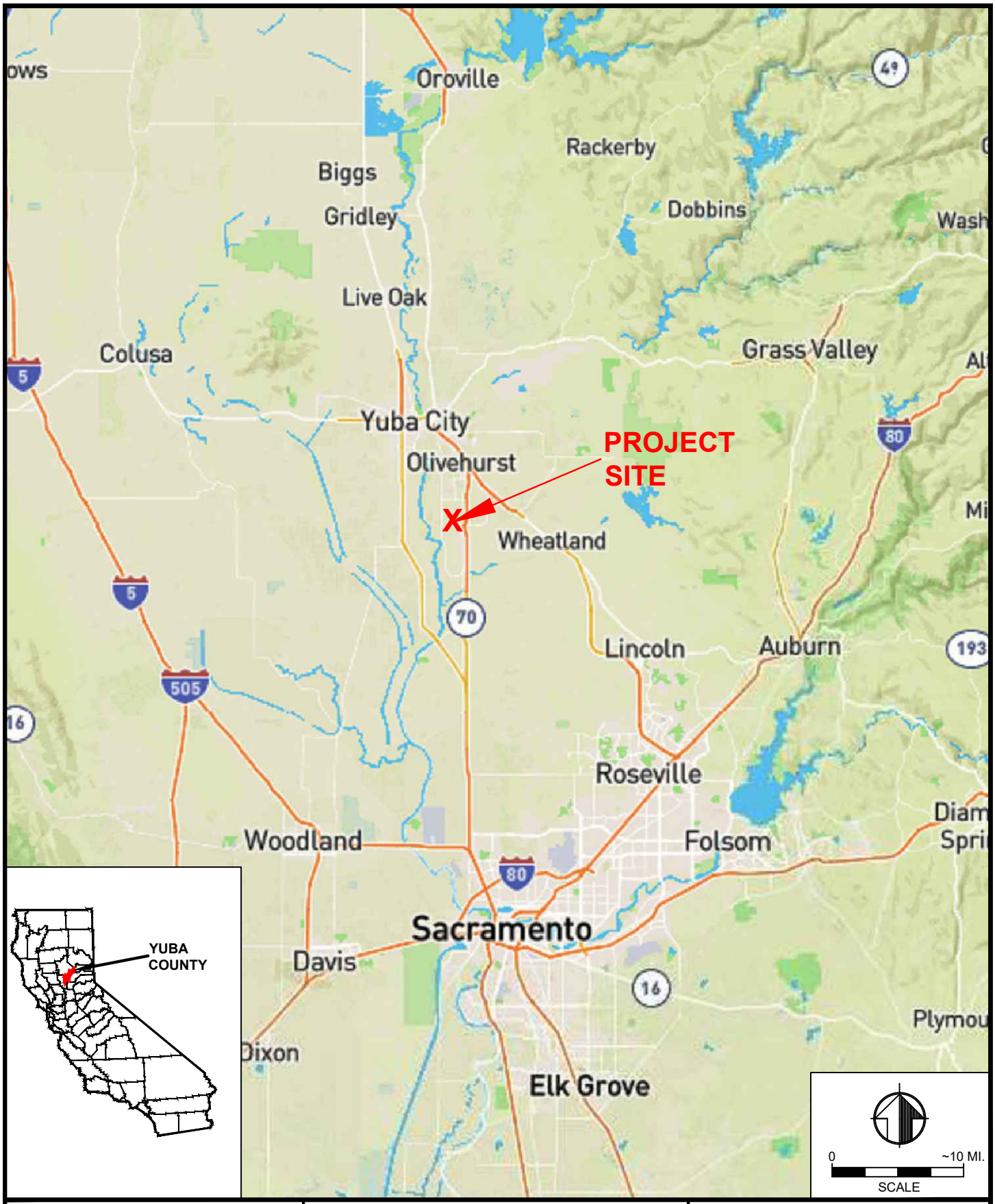
State Water Resources Control Board GeoTracker website (http://geotracker.swrcb.ca.gov)

United States Department of Agriculture, National Resources Conservation Service, Soil Survey of Yuba County, California, Issued 1998.

Yuba, County of, Assessor's Office.

Yuba County Agricultural Commissioner.

PLATES



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

OPUD 30-AC. LAND ACQUISITION
OLIVEHURST, YUBA COUNTY, CALIFORNIA

PROJECT NO.	DATE	DR. BY	APP. BY
2401-4891	1/3/25	AC	AJK

PLATE 1

SITE LOCATION



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

GOOGLE EARTH IMAGERY (4/23)

0 500
FEET

OPUD 30-AC. LAND ACQUISITION
OLIVEHURST, YUBA COUNTY, CALIFORNIA

PROJECT NO.	DATE	DR. BY	APP. BY
2401-4681	1/3/24	AC	AJK

PLATE 2

SITE MAP

APPENDIX A

ASSESSOR'S PARCEL MAP
AND FLOOD INSURANCE RATE MAP

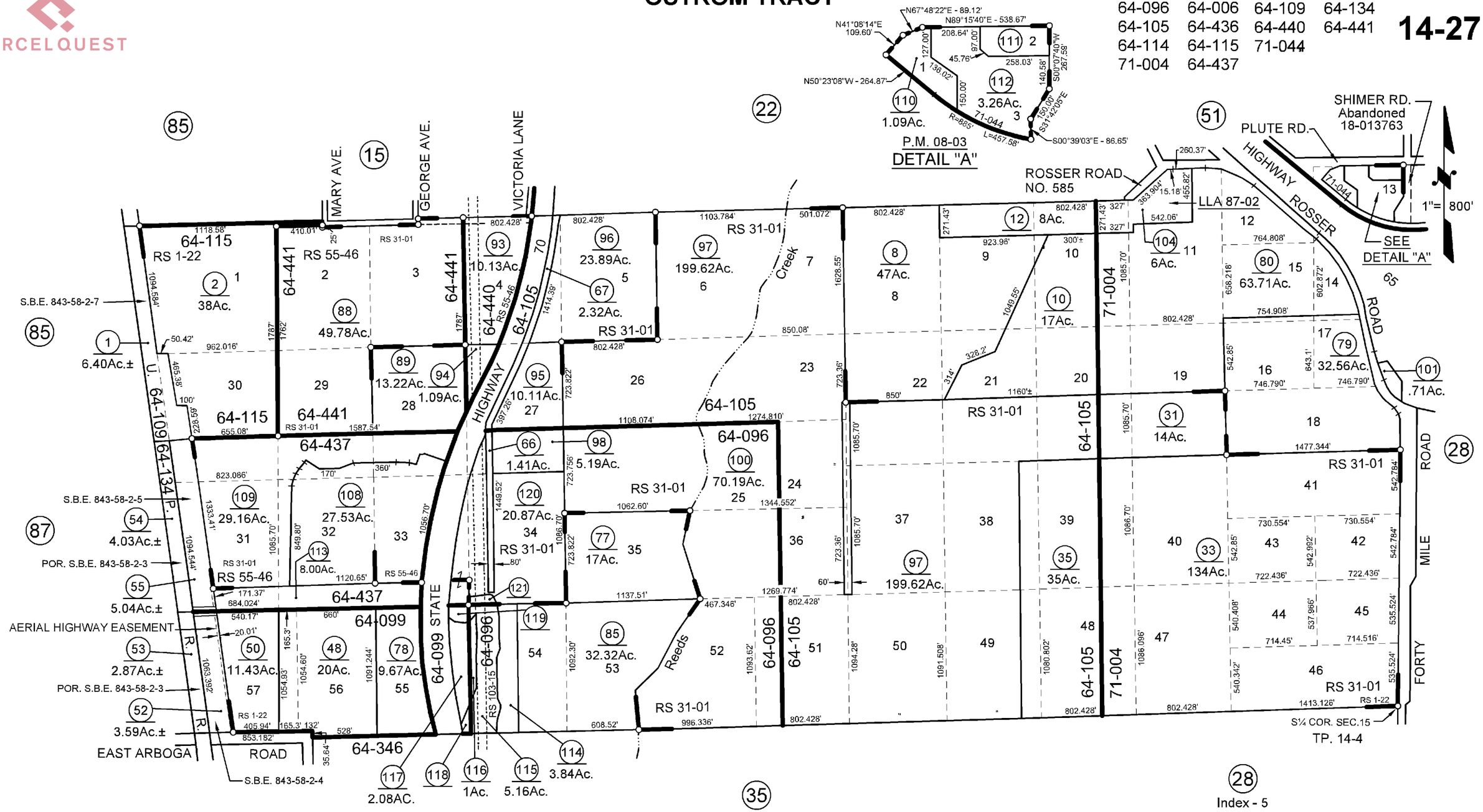
Provided by:
PARCELQUEST

OSTROM TRACT

Tax Area Code

64-096	64-006	64-109	64-134
64-105	64-436	64-440	64-441
64-114	64-115	71-044	
71-004	64-437		

14-27



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NOTE - Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles

R.S. - Bk. 103, Pgs. 15-22 (R.O.S. 20-10)
R.S. - Bk. 92, Pgs. 38-39 (P.M. 08-03)
R.S. - Bk. 55, Pgs. 46-47 (R.O.S. 91-08)
R.S. - Bk. 31, Pg. 1 (79-60 L.L.A)
R.S. - Bk. 1, Pg. 22 (L.L.A 87-02)

Assessor's Map Bk.14, Pg.27
County of Yuba, Calif.

06/24

NOTE: This map was prepared for assessment purposes only, and is not intended to illustrate legal building sites or establish precedence over local ordinances. Official information concerning size or use of any parcel should be obtained from recorded documents and local governing agencies.

National Flood Hazard Layer FIRMette

FEMA

121°33'16"W 39°3'54"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

121°32'39"W 39°3'26"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/13/2025 at 9:23 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

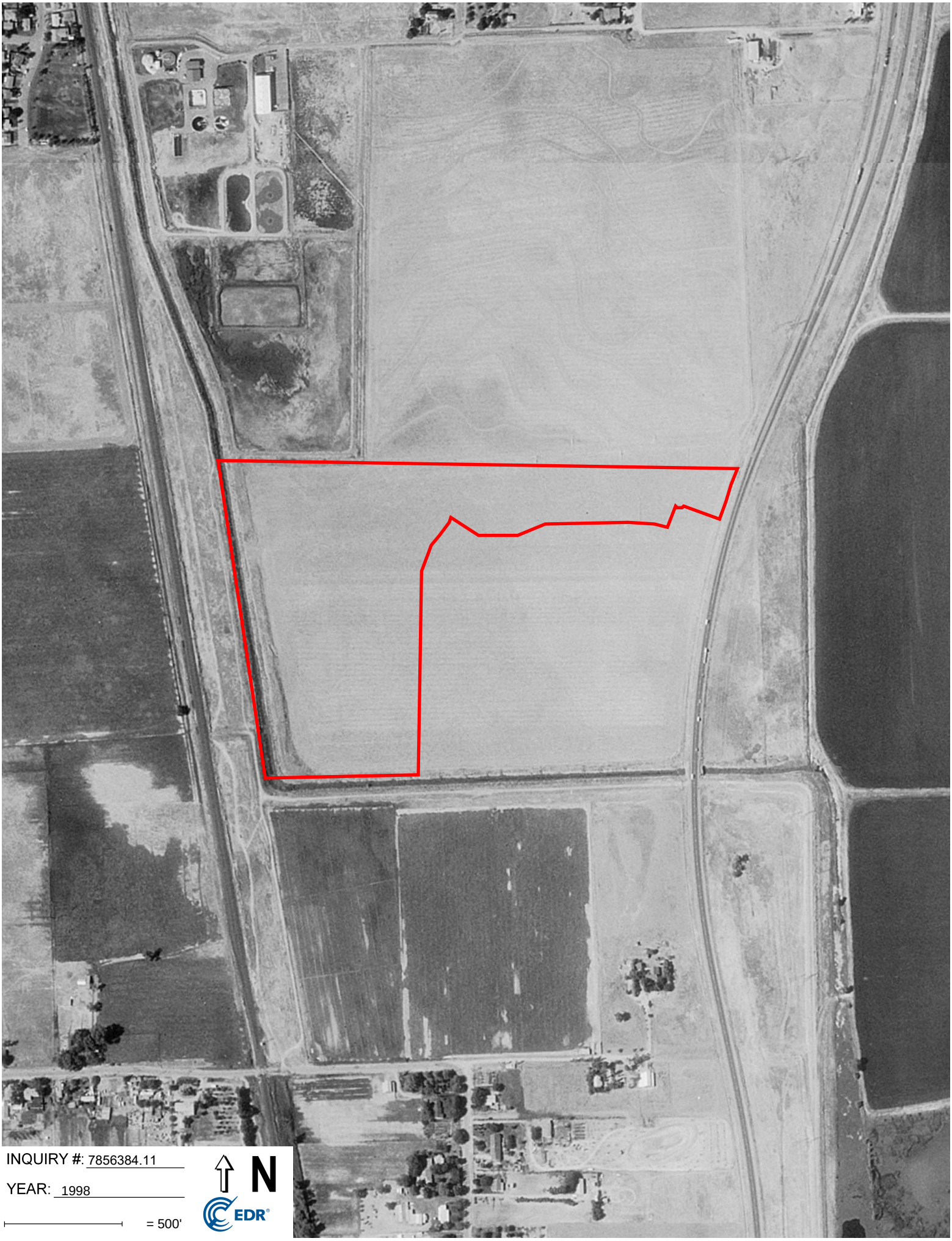
APPENDIX B

HISTORICAL AERIAL PHOTOGRAPHS AND TOPOGRAPHIC MAPS

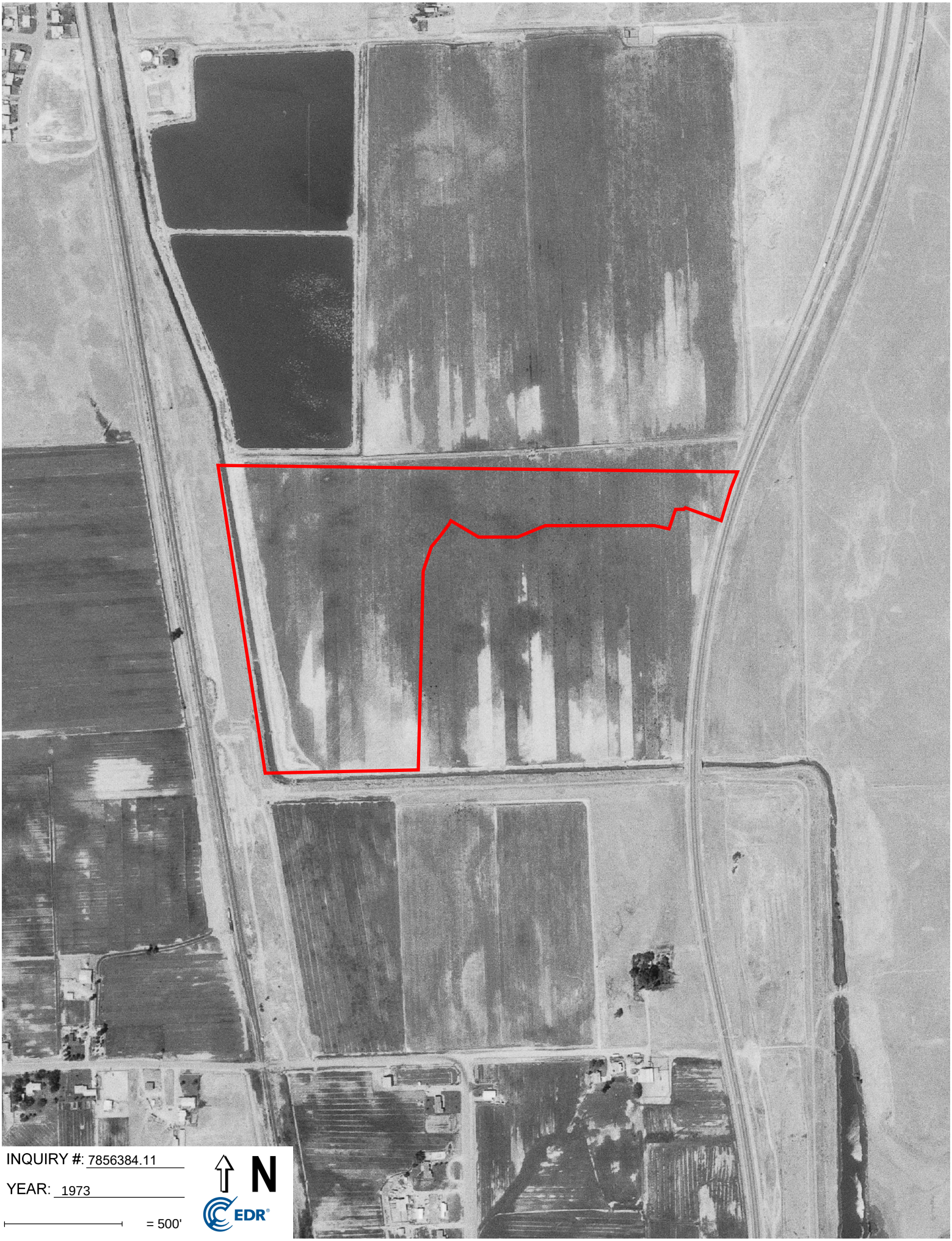

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YEAR: 2020
= 500'
N
EDR


INQUIRY #: 7856384.11
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 7856384.11
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 7856384.11
YEAR: 1998
= 500'
N
EDR


INQUIRY #: 7856384.11
YEAR: 1984
= 500'
N
EDR


INQUIRY #: 7856384.11
YEAR: 1973
= 500'
N
EDR



INQUIRY #: 7856384.11

YEAR: 1962

= 500'

N

EDR



INQUIRY #: 7856384.11

YEAR: 1952

= 500'

N

EDR



INQUIRY #: 7856384.11

YEAR: 1947

= 500'

N

EDR



INQUIRY #: 7856384.11

YEAR: 1937

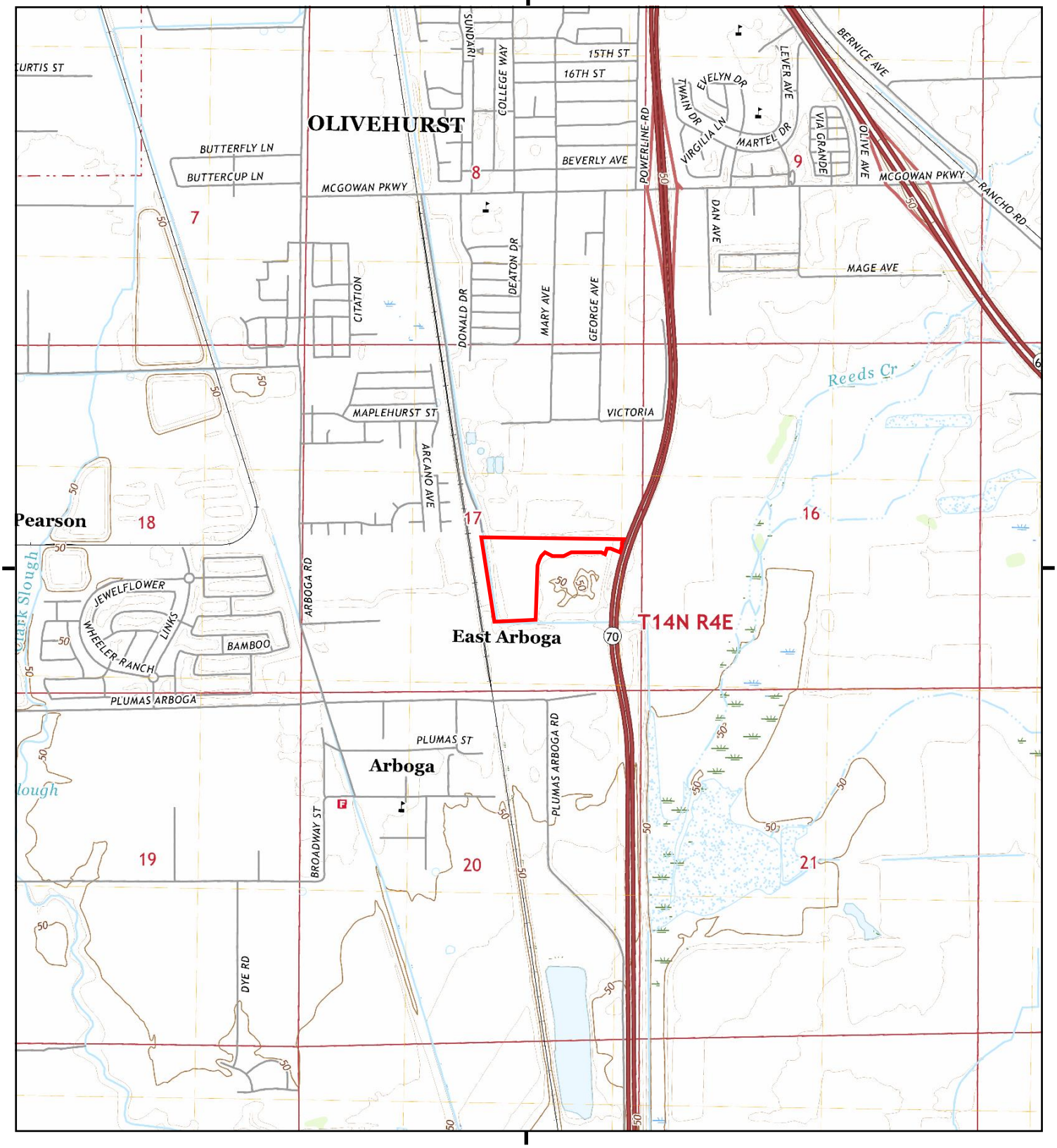
= 500'

N

EDR

Historical Topo Map

2021



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W E
SW S SE

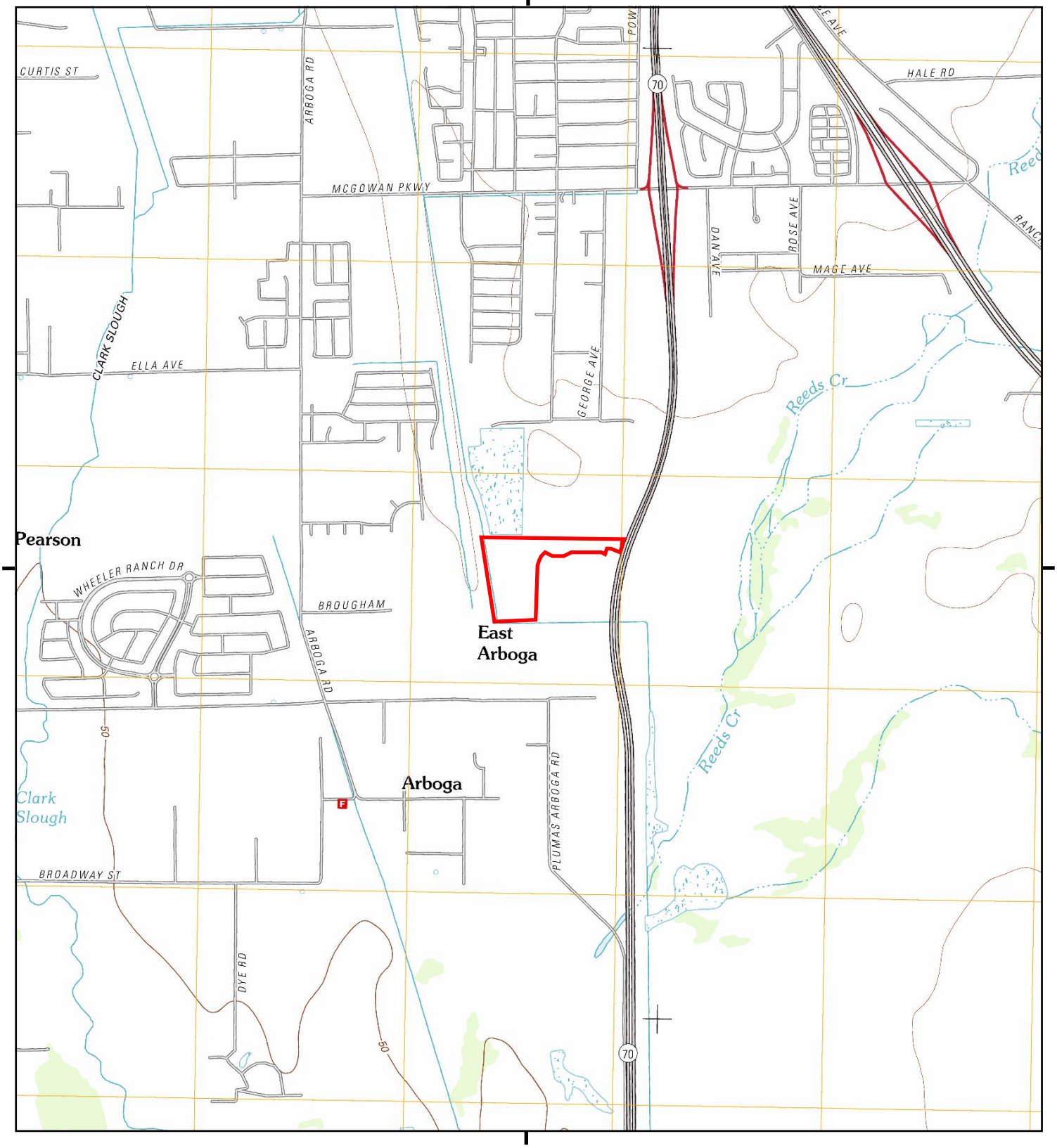
TP, Olivehurst, 2021, 7.5-minute

SITE NAME: OPUD 30-Acre Parcel
ADDRESS: Located SE of The Olivehurst WWTP
Olivehurst, CA 95961
CLIENT: Padre Associates, Inc

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

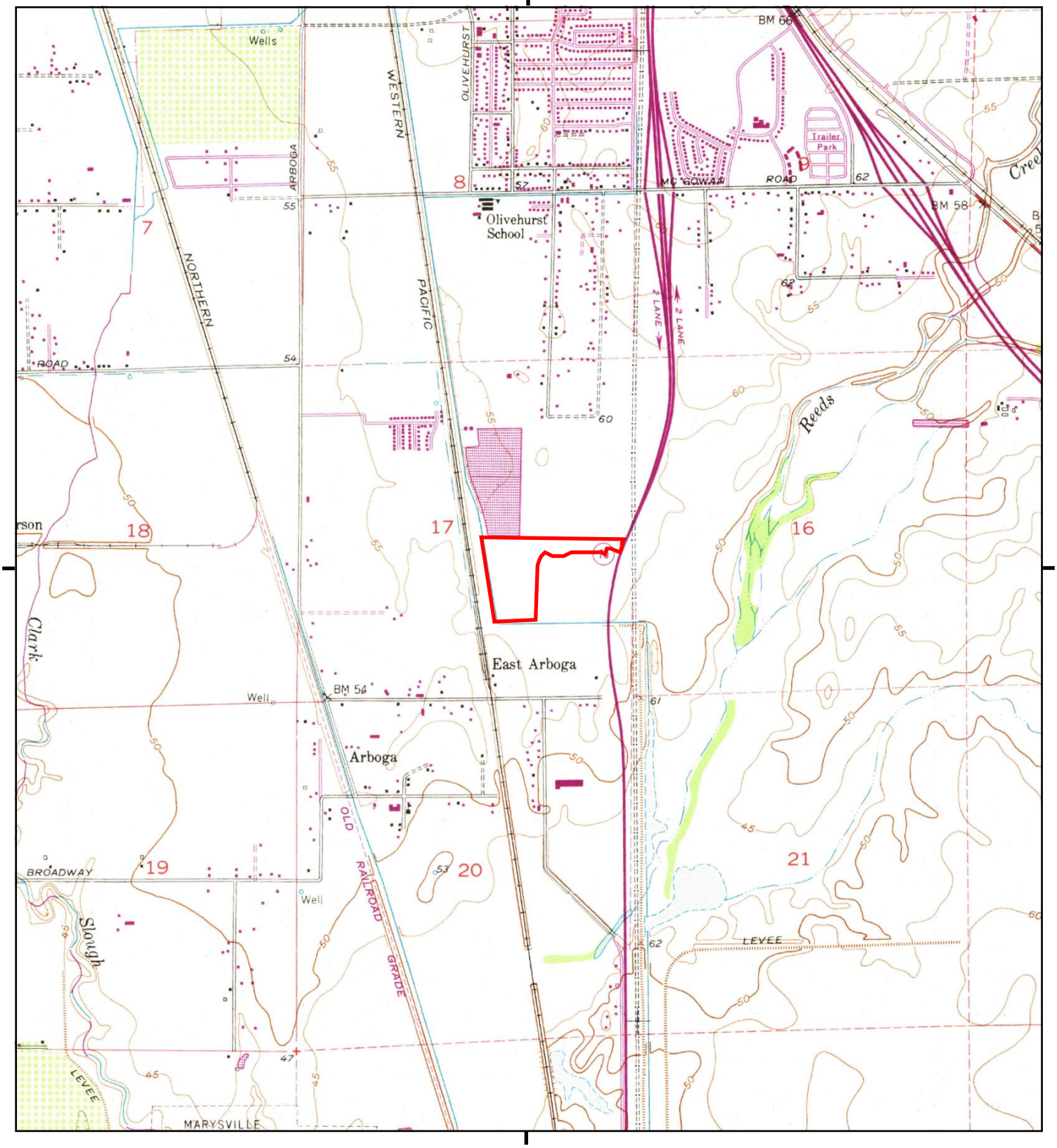
TP, Olivehurst, 2012, 7.5-minute

SITE NAME: OPUD 30-Acre Parcel
ADDRESS: Located SE of The Olivehurst WWTP
Olivehurst, CA 95961
CLIENT: Padre Associates, Inc

N

Historical Topo Map

1973



This report includes information from the following map sheet(s).

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W E
SW S SE

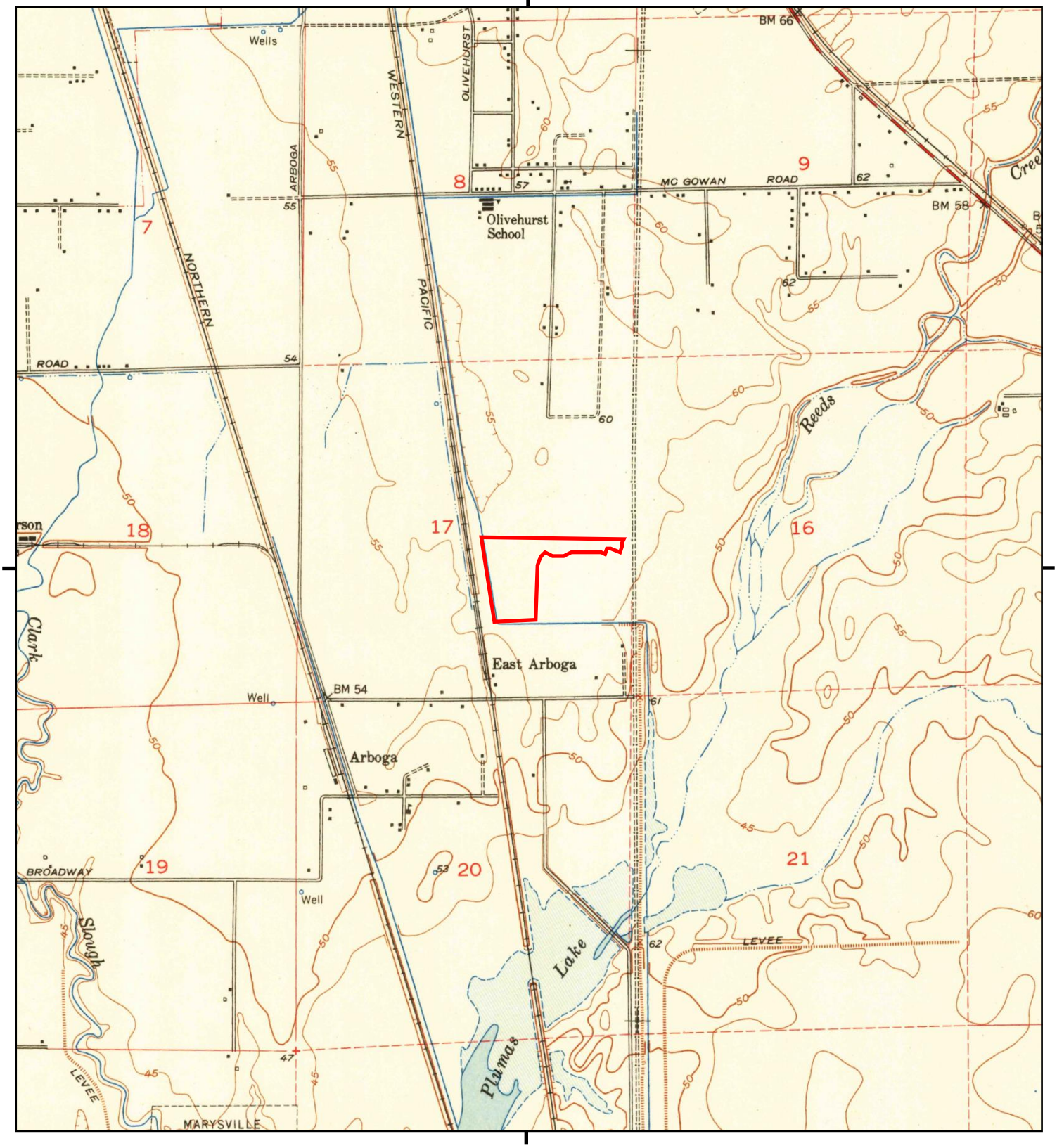
TP, Olivehurst, 1973, 7.5-minute

SITE NAME: OPUD 30-Acre Parcel
ADDRESS: Located SE of The Olivehurst WWTP
Olivehurst, CA 95961
CLIENT: Padre Associates, Inc

N

Historical Topo Map

1952



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

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W E
SW S SE

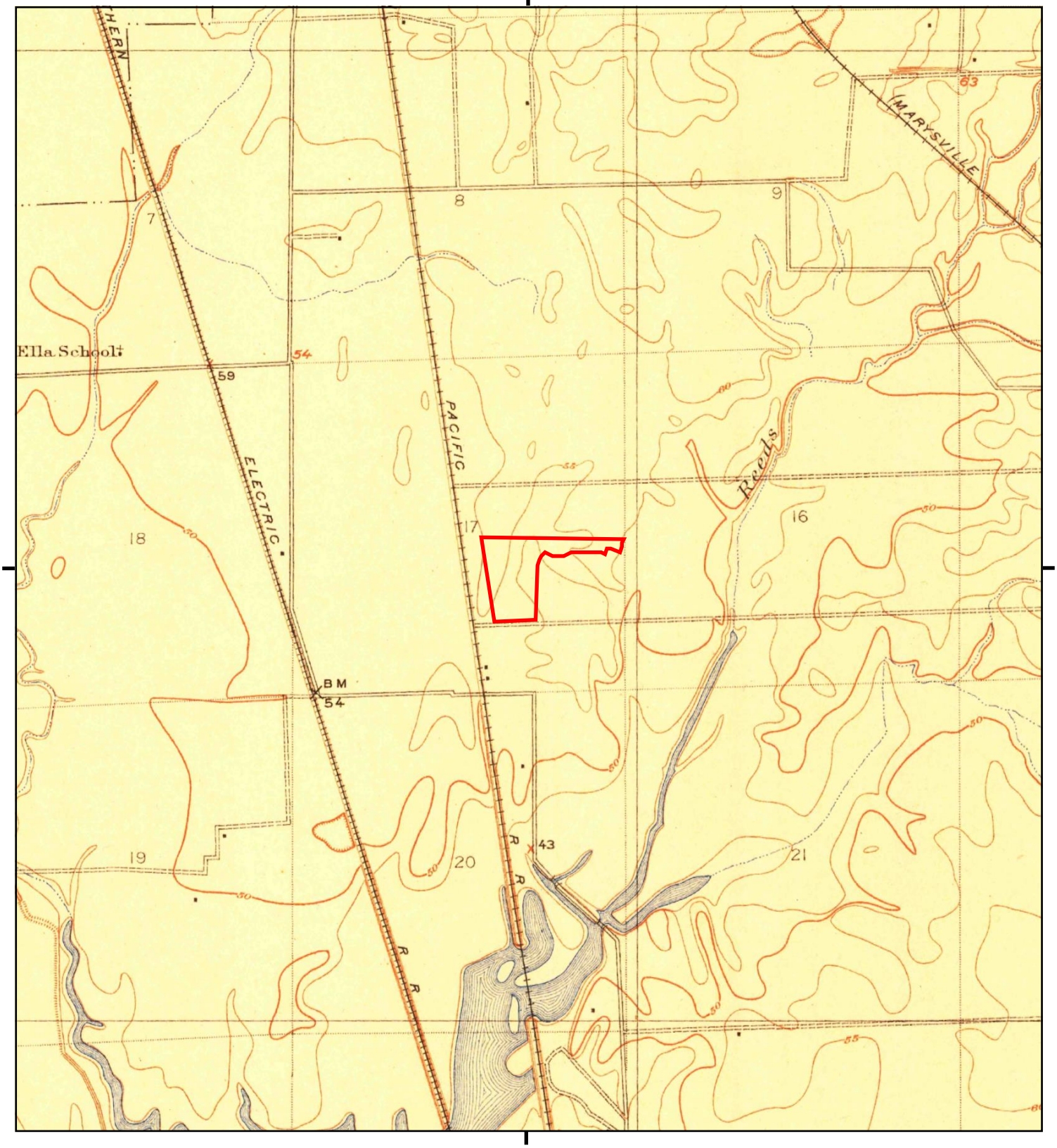
TP, Olivehurst, 1952, 7.5-minute

SITE NAME: OPUD 30-Acre Parcel
ADDRESS: Located SE of The Olivehurst WWTP
Olivehurst, CA 95961
CLIENT: Padre Associates, Inc

N

Historical Topo Map

1911



This report includes information from the following map sheet(s).

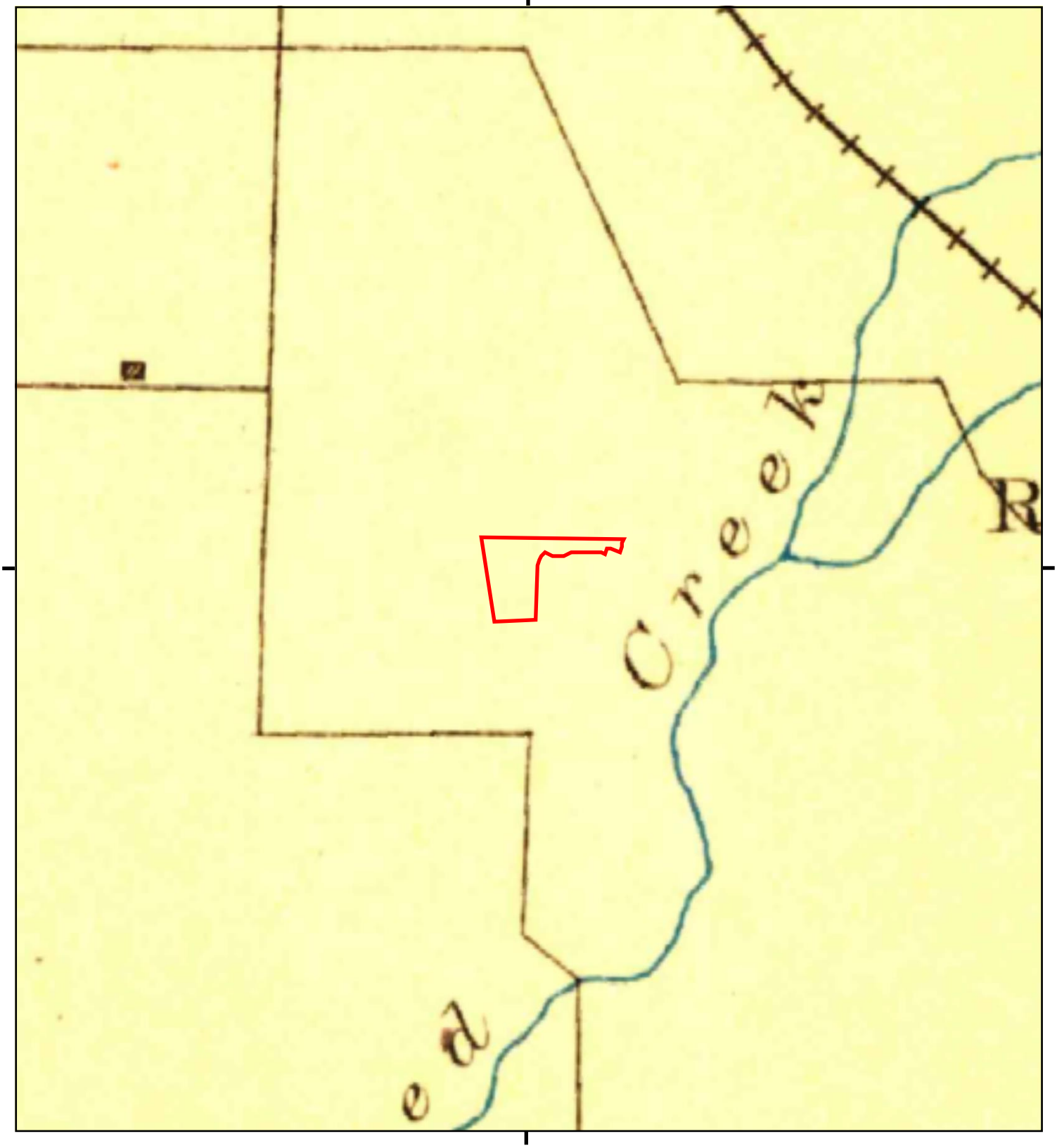
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Ostrom, 1911, 7.5-minute

SITE NAME: OPUD 30-Acre Parcel
ADDRESS: Located SE of The Olivehurst WWTP
Olivehurst, CA 95961
CLIENT: Padre Associates, Inc

N



This report includes information from the following map sheet(s).

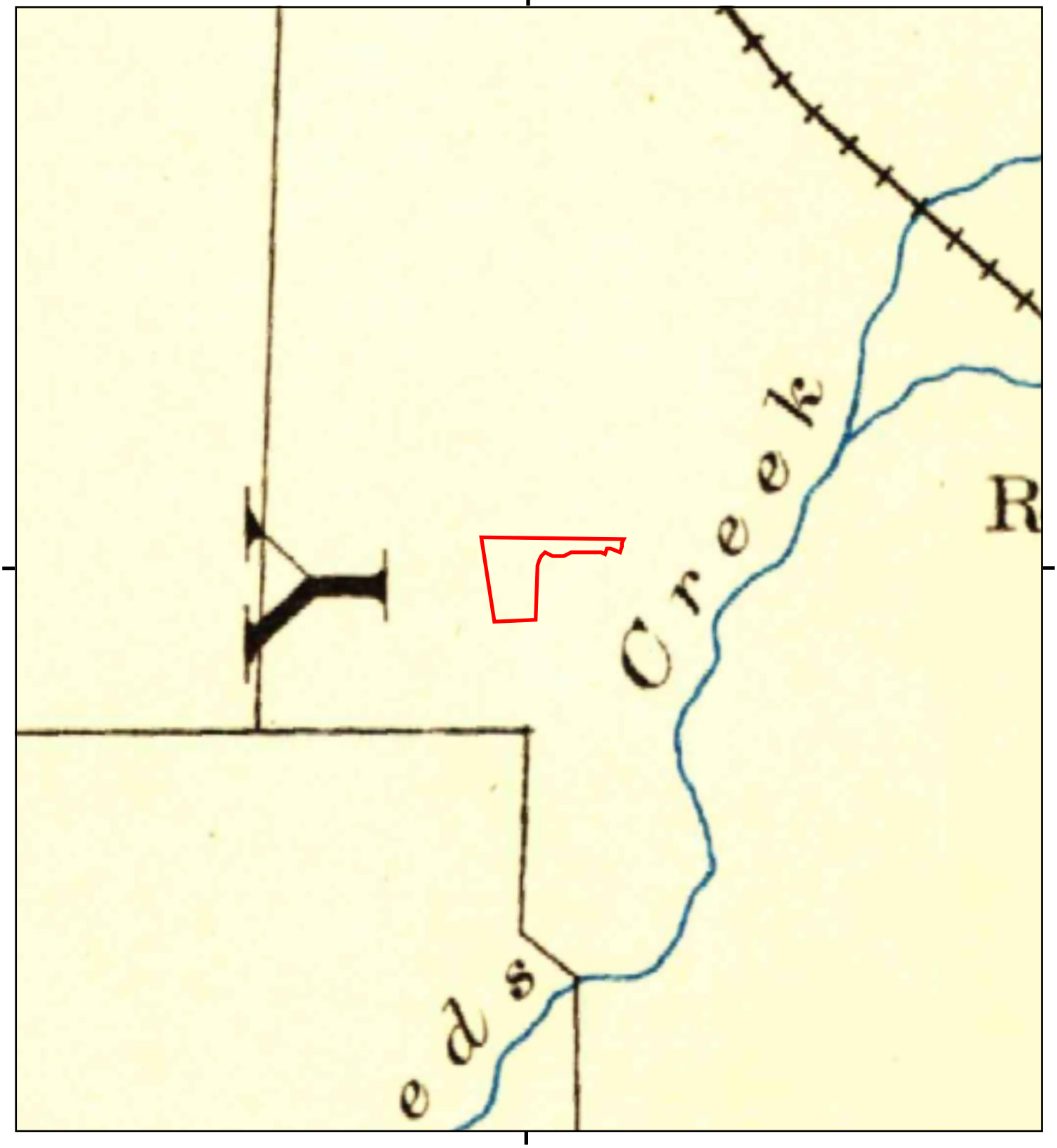
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Marysville, 1895, 30-minute

SITE NAME: OPUD 30-Acre Parcel
ADDRESS: Located SE of The Olivehurst WWTP
Olivehurst, CA 95961
CLIENT: Padre Associates, Inc

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Marysville, 1888, 30-minute

SITE NAME: OPUD 30-Acre Parcel
ADDRESS: Located SE of The Olivehurst WWTP
Olivehurst, CA 95961
CLIENT: Padre Associates, Inc

N

APPENDIX C

SITE PHOTOGRAPHS

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

	
Photo No.1 – Looking south across the Subject Property (SP).	Photo No.2 – Looking west adjacent to the OPUD WWTP.
	
Photo No.3 – State Hwy 70 located adjacent and east of the SP.	Photo No.4 – County Detention Basin located adjacent and SE of SP.

Inspection Date: 12-20-24

	
Photo No.5 – Abandoned refrigerators at SE corner (off-site).	Photo No.6 – Looking west along the southern boundary of the SP.
	
Photo No.7 – Drainage canal along the southern boundary of the SP.	Photo No.8 – Drainage culvert along the southern property boundary.

Inspection Date: 12-20-24



Photo No.9 – Abandoned truck shell at SW corner of the SP.



Photo No.10 – Looking north atop levee at SW corner of SP.



Photo No.11 – Looking west across drainage canal adj and west of SP.



Photo No.12 – Entrance gate from WWTP at SW corner of the SP.

Inspection Date: 12-20-24

APPENDIX D

ENVIRONMENTAL QUESTIONNAIRE

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Subject Property Environmental Questionnaire

Padre Associates, Inc. (Padre) on behalf of the **Olivehurst Public Utility District** is requesting the completion of the following environmental questionnaire by the property owner and/or a representative of the property owner who is knowledgeable with the Subject Property's site-use and site-history.

Please answer the following questions to the best of your knowledge. If you need more space, please use the back of the questionnaire or a separate sheet(s) of paper. If the answer to the question is unknown, write "unknown".

Subject Property: 30-Acre parcel of land located southeast of the Olivehurst Wastewater Treatment Plant (WWTP), in Olivehurst, Yuba County, California. Please refer to Plate 2: Site Map and the Assessor's Parcel Map (attached).

1. Current property owner: Manbirpaul Dhillon
   Contact: Paul Email / Phone No.: 916-240-0893
2. Date of Ownership: Feb 2018
3. Previous property owner: Mark Vespoli
4. Current Property Use: Agriculture
5. Historic Property Use: Ag
6. Are there building structures currently located onsite? Please provide building use and date of construction: No
7. Have there been historic building structures that have since been removed? Please provide building use, location and date of removal: No
8. Is the property serviced by city water and sewer or private well and septic system: private well not on subject property

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

9. Are there any existing or former pits, ponds, or lagoons used for waste disposal or waste treatment located onsite: NO

10. Are there any existing or former petroleum storage tanks (underground or aboveground) located onsite: not that I know of

11. Are there any existing or former landfills and/or burn pits located onsite: not that I know of

12. List past and present pesticide/herbicide use (List chemicals/yrs): Scala Fungicide, Roundup, Dupont Altacor, Bifenture Insecticide, Vigilant Miteacide, quadris top 2022-2024

13. Have any chemical spills and/or incidents occurred onsite: No

14. Has fill material (soil) been imported to the property (If yes, please list location, volume, borrow source and date): No

15. Are there any existing environmental reports for the Subject Property: No

16. Are you aware of any environmental incidents associated with adjacent or nearby properties: No

COMPLETED BY:

Signature: Paul Dhillon Date: 1/7/24

Print Name: Manbirpal Dhillon

Representing:

Email Questionnaire to: Alan J. Klein, Project Manager.
Padre Associates, Inc.
(916) 333-5920 x240
aklein@padreinc.com



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

GOOGLE EARTH IMAGERY (4/23)

0 500
FEET

OPUD 30-AC. LAND ACQUISITION
OLIVEHURST, YUBA COUNTY, CALIFORNIA

PROJECT NO.	DATE	DR. BY	APP. BY
2401-4681	1/3/24	AC	AJK

PLATE 2

SITE MAP

APPENDIX E

PESTICIDE-USE PERMITS

The County of Yuba

Agricultural Commissioner – Weights & Measures
915 8th Street, Suite 127 – Marysville, CA 95901

(530) 749-5400
Fax (530) 749-5404
yubaag@co.yuba.ca.us

Name Alan J. Klein		**DBA** Padre Associates, Inc.	
Address 350 University Ave, #250	**City** Sacramento	**State** CA	**Zip Code** 95825
Phone 916.333.5920 x240	**Fax**	**Email** aklein@padreinc.com	

WHILE I UNDERSTAND THAT CERTAIN RECORDS, DATA, AND FILES ARE SPECIFICALLY EXEMPT BY LAW FROM THE GENERAL RULE OF ACCESSIBILITY AND MAY NOT BE RELEASED FOR MY REVIEW, I DO HEREBY REQUEST PERMISSION TO REVIEW AND/OR COPY THE FOLLOWING INFORMATION WHICH IS IN THE CUSTODY OF THE YUBA COUNTY DEPARTMENT OF AGRICULTURE LOCATED AT 915 8TH STREET, SUITE 127, MARYSVILLE, CA 95901, NAMELY:

PLEASE BE SPECIFIC

Requesting a records search for "Pesticide-Use Reports" for the property identified as:

APN: 014-270-109-000 (29.16 ac.). The property is currently planted with almond trees and is located south of the Olivehurst Public Utility District Wastewater Treatment Plant in Olivehurst, CA.

A Site Map and Assessor's Map are attached.

Signature	**Date** January 6, 2025

This department has ten (10) days from date request was received in this office, to evaluate the above request.

FOR OFFICE USE ONLY

This request is ☐ / is not ☐ subject to the California Public Records Act. Permission is hereby granted to the above Requestor to review and/or copy the following data, files, and records, which are in the custody of the Yuba County Department of Agriculture.

☐ YES ☐ NO Notes: _____

However, the following data, files, and records requested for review are considered to fall within the exempt category and will not be made available _____

Disclosure of the above requested information is prohibited by law and is specifically exempt from the general rule of accessibility (Section 6254, 6254 (e), and 6255 of the Government Code and Section 1040 of the Evidence Code)

Approved by:	Stephen M. Scheer / Agricultural Commissioner	Date

INFO REQUEST RECEIVED BY		**COPY TO COUNTY COUNSEL**		**COMPLETED & FILED**	
INTIALS	DATE	INTIALS	DATE	INTIALS	DATE



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

GOOGLE EARTH IMAGERY (4/23)

0 500
FEET

OPUD 30-AC. LAND ACQUISITION
OLIVEHURST, YUBA COUNTY, CALIFORNIA

PROJECT NO.	DATE	DR. BY	APP. BY
2401-4681	1/3/24	AC	AJK

PLATE 2

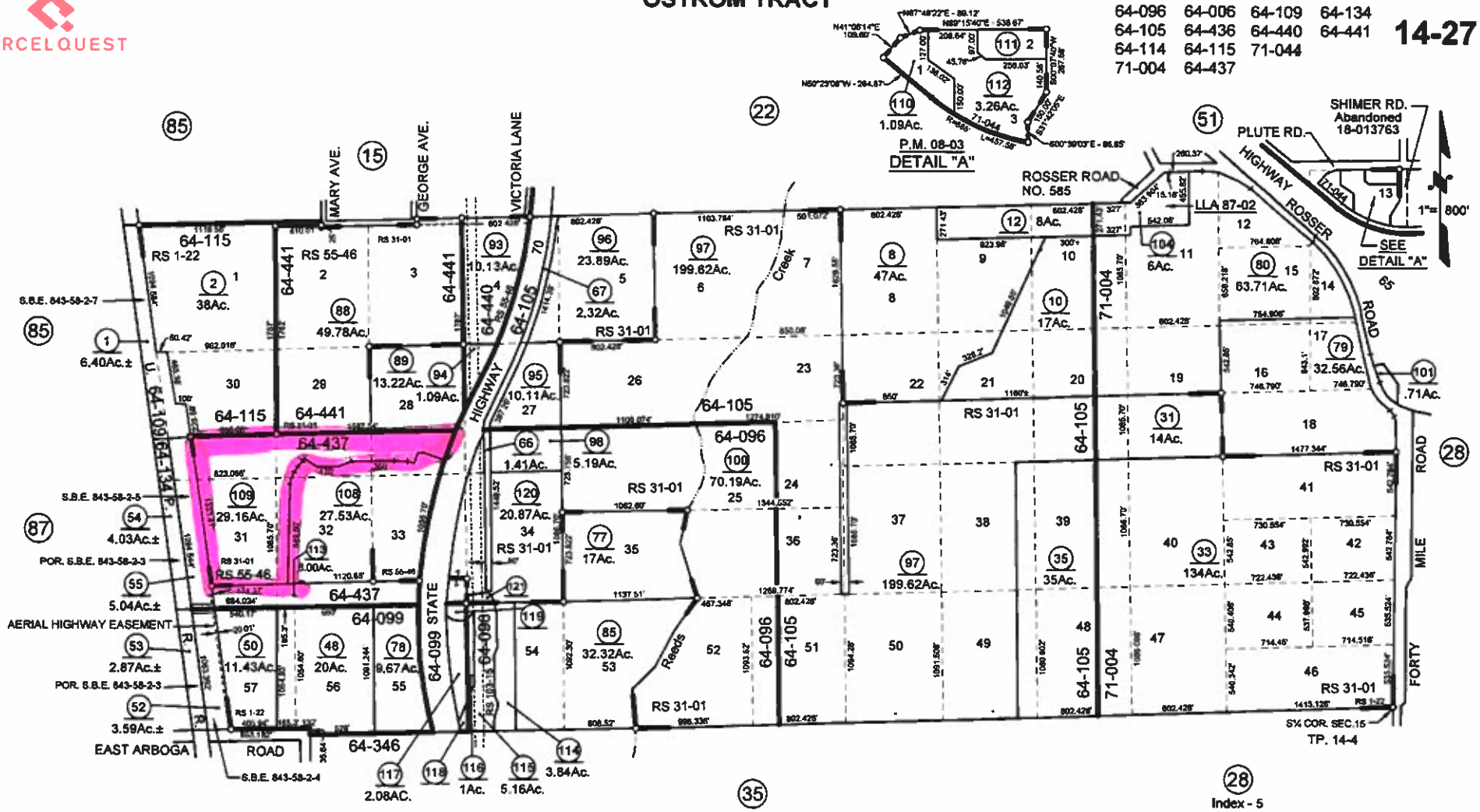
SITE MAP

Provided by:
PARCELQUEST

OSTROM TRACT

Tax Area Code

64-096	64-006	64-109	64-134	
64-105	64-436	64-440	64-441	**14-27**
64-114	64-115	71-044		
71-004	64-437			



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NOTE - Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles

Assessor's Map Bk.14, Pg.27
County of Yuba, Calif.

06/24

R.S. - Bk. 103, Pgs. 15-22 (R.O.S. 20-10)
R.S. - Bk. 92, Pgs. 38-39 (P.M. 08-03)
R.S. - Bk. 55, Pgs. 46-47 (R.O.S. 91-08)
R.S. - Bk. 31, Pg. 1 (79-60 L.L.A)
R.S. - Bk. 1, Pg. 22 (L.L.A 87-02)

NOTE: This map was prepared for assessment purposes only, and is not intended to illustrate legal building sites or establish precedence over local ordinances. Official information concerning size or use of any parcel should be obtained from recorded documents and local governing agencies.

From: Harris, Shae
To: Alan Klein
Subject: RE: [External]RE: Yuba County Info Request
Date: Tuesday, January 7, 2025 4:32:48 PM
Attachments: image001.png
2019 PURs.xlsx
2020 PURs.xlsx
2022 PURs.xlsx
2023 PURs.xlsx
2024 PURs.xlsx

Typically, the 3-year rule is correct when it comes to paper copies of the Pesticide Use Reports, but we do have access to some of the electronic reports dating back further. In the case of the orchard that you are inquiring about we have 7 years' worth of electronic records going back to when the orchard was planted. I have attached excel spread sheets of the years that we have records of – 2019,2020,2022,2023,2024. There were no pesticides applied according to our records in 2021.

Please let me know if you have any other questions.

Best –

Shae Harris
Agricultural Weights & Measures Specialist III
Agriculture Commissioner's Office
915 8th Street, Suite #127
Marysville, CA 95901
Office: (530) 749-5400

Yuba COUNTY
Agricultural Commissioner

From: Alan Klein <aklein@PadreInc.com>
Sent: Tuesday, January 7, 2025 4:02 PM
To: Harris, Shae <sharris@CO.YUBA.CA.US>
Subject: [External]RE: Yuba County Info Request

Good day Shae,
It has been my understanding that the County Ag Commissioners generally maintain records for up to 3-yrs for public review. If Yuba County provides more than this, can you list the years available?
Thanks

Alan

Alan J. Klein, REPA, CPESC, QSD/QSP
Associate Senior Environmental Scientist
PADRE ASSOCIATES, INC.
350 University Ave., Suite 250
Sacramento, CA 95825
(916) 333-5920 X240
(916) 947-4831 (mobile)

From: Harris, Shae <sharris@CO.YUBA.CA.US>
Sent: Tuesday, January 7, 2025 3:52 PM
To: Alan Klein <aklein@PadreInc.com>
Subject: Yuba County Info Request

Hello Mr. Klein –

I am in the process of gathering the information that you requested from our office, and I have a question for you. You did not indicate what year(s) of Pesticide Use Report records you would like about the parcel provided. Is there a specific year you are looking for?

Best –

Shae Harris
Agricultural Weights & Measures Specialist III
Agriculture Commissioner's Office
915 8th Street, Suite #127
Marysville, CA 95901
Office: (530) 749-5400

Yuba COUNTY
Agricultural Commissioner

Permit #	Permitee	Violation Permit	Site ID
5800060	DHILLON, MANBIR	No	3A
5800060	DHILLON, MANBIR	No	3A
5800060	DHILLON, MANBIR	No	3A

Site District	Block ID	Source	Site Location	Site Name
		webbatch	S. OF MCGOWAN PKWY & W.	
		webbatch	S. OF MCGOWAN PKWY & W.	
		webbatch	S. OF MCGOWAN PKWY & W.	

Meridian	Township	Range	Section	Application Start Date	Application Start Time
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		

Application End Date	Application End Time	Commodity Code	Commodity	Pre-plant
4/3/2019	11:00 AM	3001-0	ALMOND	No
4/3/2019	11:00 AM	3001-0	ALMOND	No
4/3/2019	11:00 AM	3001-0	ALMOND	No

Planted Amount	Planted Units	EPA Reg No
95.0000	ACRES	5905-50076-AA
95.0000	ACRES	524-549-AA
95.0000	ACRES	5905-50085-AA

Product Name	Registration Expired
QUEST (CA)	
ROUNDUP POWERMAX HER	
CROP OIL CONCENTRATE	

RMP	Quantity Used	Quantity Units	Treated Amount	Treated Units
True	4.7500	Gallon	95.0000	ACRES
True	32.5400	Gallon	95.0000	ACRES
True	9.5000	Gallon	95.0000	ACRES

Appl. Method	Fume Code	Applicator Name	Applicator License #
Aircraft		TWIN CITIES AVIATION, INC	39449
Aircraft		TWIN CITIES AVIATION, INC	39449
Aircraft		TWIN CITIES AVIATION, INC	39449

Applicator License Type	Applicator Address	Days Reentry	Days Pre-Harvest
PCM	94 SECOND ST YUBA CITY CA 95991		
PCM	94 SECOND ST YUBA CITY CA 95991		
PCM	94 SECOND ST YUBA CITY CA 95991		

Document#	Submitted By	Submitted Date	Entered By	Time Stamp Date
8400951	TWIN CITIES AVIATION,	4/5/2019	agrian_data	4/5/2019
8400951	TWIN CITIES AVIATION,	4/5/2019	agrian_data	4/5/2019
8400951	TWIN CITIES AVIATION,	4/5/2019	agrian_data	4/5/2019

Time Stamp Time	Rpt Status	Sub Status	School Notify
11:39 AM	ACC	DPR	Not Required
11:39 AM	ACC	DPR	Not Required
11:39 AM	ACC	DPR	Not Required

Permit #	Permitee		Violation Permit	Site ID
5800060	DHILLON, MANBIR 'PAUL'	No		3A
5800060	DHILLON, MANBIR 'PAUL'	No		3A
5800060	DHILLON, MANBIR 'PAUL'	No		3A

Site District	Block ID	Source	Site Location	Site Name
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	

Meridian	Township	Range	Section	Application Start Date	Application Start Time
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		

Application End Date	Application End Time	Commodity Code	Commodity		Pre-plant
4/13/2020	6:00 AM	3001-0	ALMOND	No	
11/6/2020	6:00 AM	3001-0	ALMOND	No	
11/6/2020	6:00 AM	3001-0	ALMOND	No	

Planted Amount	Planted Units	EPA Reg No
95.0000	ACRES	524-549-AA
95.0000	ACRES	241-418-AA
95.0000	ACRES	7969-448-AA

Product Name	Registration Expired
ROUNDUP POWERMAX HERBICIDE	
PROWL H2O HERBICIDE	
RELY 280 HERBICIDE	

RMP	Quantity Used	Quantity Units	Treated Amount	Treated Units
True	20.0000	Gallon	95.0000	ACRES
True	25.9100	Gallon	95.0000	ACRES
True	9.7200	Gallon	95.0000	ACRES

Appl. Method	Fume Code	Applicator Name	Applicator License #
Ground			
Ground			
Ground			

Applicator License Type	Applicator Address	Days Reentry	Days Pre-Harvest

Document#	Submitted By	Submitted Date	Entered By	Time Stamp Date
WEB223384513			MANBIR	3/24/2022
WEB223384515			MANBIR	3/24/2022
WEB223384515			MANBIR	3/24/2022

Time Stamp Time	Rpt Status	Sub Status	School Notify
11:58 AM	ACC	DPR	Not Required
12:23 PM	ACC	DPR	Not Required
12:23 PM	ACC	DPR	Not Required

Permit #	Permitee		Violation Permit	Site ID
5800060	DHILLON, MANBIR 'PAUL'	No		3A
5800060	DHILLON, MANBIR 'PAUL'	No		3A
5800060	DHILLON, MANBIR 'PAUL'	No		3A

Site District	Block ID	Source	Site Location	Site Name
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	

Meridian	Township	Range	Section	Application Start Date	Application Start Time
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		

Application End Date	Application End Time	Commodity Code	Commodity		Pre-plant
5/1/2021	6:00 AM	3001-0	ALMOND	No	
11/9/2021	6:00 AM	3001-0	ALMOND	No	
11/9/2021	6:00 AM	3001-0	ALMOND	No	

Planted Amount	Planted Units	EPA Reg No
95.0000	ACRES	524-549-AA
95.0000	ACRES	241-418-AA
95.0000	ACRES	7969-448-AA

Product Name	Registration Expired
ROUNDUP POWERMAX HERBICIDE	
PROWL H2O HERBICIDE	
RELY 280 HERBICIDE	

RMP	Quantity Used	Quantity Units	Treated Amount	Treated Units
True	22.5000	Gallon	95.0000	ACRES
True	25.9100	Gallon	95.0000	ACRES
True	9.7200	Gallon	95.0000	ACRES

Appl. Method	Fume Code	Applicator Name	Applicator License #
Ground			
Ground			
Ground			

Applicator License Type	Applicator Address	Days Reentry	Days Pre-Harvest

Document#	Submitted By	Submitted Date	Entered By	Time Stamp Date
WEB223384545			MANBIR	3/24/2022
WEB223385119			MANBIR	3/29/2022
WEB223385119			MANBIR	3/29/2022

Time Stamp Time	Rpt Status	Sub Status	School Notify
2:07 PM	ACC	DPR	Not Required
11:16 AM	ACC	DPR	Not Required
11:16 AM	ACC	DPR	Not Required

Permit #	Permitee	Violation Permit	Site ID
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A
5800060	DHILLON, MANBIR 'PAUL'	No	3A

Site District	Block ID	Source	Site Location	Site Name
		webxml	S. OF MCGOWAN PKWY & W.	
		webxml	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	

Meridian	Township	Range	Section	Application Start Date	Application Start Time
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		

Application End Date	Application End Time	Commodity Code	Commodity	Pre-plant
3/3/2023	10:20 AM	3001-0	ALMOND	No
3/26/2023	8:00 AM	3001-0	ALMOND	No
3/3/2023	11:00 AM	3001-0	ALMOND	No
3/25/2023	11:00 AM	3001-0	ALMOND	No
4/14/2023	9:00 AM	3001-0	ALMOND	No
4/28/2023	8:30 AM	3001-0	ALMOND	No
4/28/2023	8:30 AM	3001-0	ALMOND	No
7/20/2023	8:00 AM	3001-0	ALMOND	No
7/20/2023	8:00 AM	3001-0	ALMOND	No
7/20/2023	8:00 AM	3001-0	ALMOND	No
7/20/2023	8:00 AM	3001-0	ALMOND	No
8/10/2023	8:00 AM	3001-0	ALMOND	No

Planted Amount	Planted Units	EPA Reg No
95.0000	ACRES	264-788-AA
95.0000	ACRES	34704-881-ZB
95.0000	ACRES	264-788-AA
95.0000	ACRES	34704-881-ZB
95.0000	ACRES	524-549-AA
95.0000	ACRES	100-1313-ZA
95.0000	ACRES	59639-209-AA
95.0000	ACRES	70506-57-AA
95.0000	ACRES	100-1351-ZA
95.0000	ACRES	87290-12-ZA
95.0000	ACRES	5905-50087-AA
95.0000	ACRES	524-549-AA

Product Name	Registration Expired
SCALA BRAND SC FUNGICIDE	
INITIATE 720 FLOWABLE FUNGICIDE	
SCALA BRAND SC FUNGICIDE	
INITIATE 720 FLOWABLE FUNGICIDE	
ROUNDUP POWERMAX HERBICIDE	
QUADRIS TOP FUNGICIDE	
ASANA XL INSECTICIDE	
BIFENTURE EC AGRICULTURAL INSECTICIDE	
AGRI-MEK SC MITICIDE/INSECTICIDE	
WILLOWOOD TEB 45DF	
KINETIC	
ROUNDUP POWERMAX HERBICIDE	

RMP	Quantity Used	Quantity Units	Treated Amount	Treated Units
True	9.5000	Gallon	95.0000	ACRES
True	47.5000	Gallon	95.0000	ACRES
True	1,216.0000	Ounce	95.0000	ACRES
True	47.5000	Gallon	95.0000	ACRES
True	190.0000	Quart	95.0000	ACRES
True	1,330.0000	Ounce	95.0000	ACRES
True	950.0000	Ounce	95.0000	ACRES
True	1,216.0000	Ounce	95.0000	ACRES
True	380.0000	Ounce	95.0000	ACRES
True	608.0000	Ounce	95.0000	ACRES
True	285.0000	Ounce	95.0000	ACRES
True	190.0000	Quart	95.0000	ACRES

Appl. Method	Fume Code	Applicator Name	Applicator License #
Aircraft		TWIN CITIES AVIATION, INC	39449
Aircraft		TWIN CITIES AVIATION, INC	39449
Aircraft			
Aircraft			
Ground			
Ground			
Ground			
Ground			
Ground			
Ground			
Ground			
Ground			

Applicator License Type	Applicator Address	Days Reentry	Days Pre-Harvest
PCM	94 SECOND ST YUBA CITY CA 95991		
PCM	94 SECOND ST YUBA CITY CA 95991		

Document#	Submitted By	Submitted Date	Entered By	Time Stamp Date
13058276			agrian_data	3/9/2023
13101775			agrian_data	3/27/2023
WEB243496401			MANBIR	1/3/2024
WEB243496428			MANBIR	1/3/2024
WEB243497015			MANBIR	1/8/2024
WEB243497018			MANBIR	1/8/2024
WEB243497018			MANBIR	1/8/2024
WEB243497043			MANBIR	1/8/2024
WEB243497043			MANBIR	1/8/2024
WEB243497043			MANBIR	1/8/2024
WEB243497043			MANBIR	1/8/2024
WEB243497047			MANBIR	1/8/2024

Time Stamp Time	Rpt Status	Sub Status	School Notify
10:06 AM	ACC	DPR	Not Required
10:14 AM	ACC	DPR	Not Required
12:07 PM	ACC	DPR	Not Required
12:47 PM	ACC	DPR	Not Required
10:11 AM	ACC	DPR	Not Required
10:25 AM	ACC	DPR	Not Required
10:25 AM	ACC	DPR	Not Required
11:16 AM	ACC	DPR	Not Required
11:16 AM	ACC	DPR	Not Required
11:16 AM	ACC	DPR	Not Required
11:16 AM	ACC	DPR	Not Required
11:20 AM	ACC	DPR	Not Required

Permit #	Permitee	Violation Permit	Site ID
5800060	MANBIRPAUL DHILLON - D&G RANC	No	3A
5800060	MANBIRPAUL DHILLON - D&G RANC	No	3A
5800060	MANBIRPAUL DHILLON - D&G RANC	No	3A

Site District	Block ID	Source	Site Location	Site Name
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	
		webpublic	S. OF MCGOWAN PKWY & W.	

Meridian	Township	Range	Section	Application Start Date	Application Start Time
M	14N	04E	17		
M	14N	04E	17		
M	14N	04E	17		

Application End Date	Application End Time	Commodity Code	Commodity	Pre-plant
2/16/2024	11:30 AM	3001-0	ALMOND	No
2/26/2024	12:15 PM	3001-0	ALMOND	No
4/2/2024	6:50 AM	3001-0	ALMOND	No

Planted Amount	Planted Units	EPA Reg No
95.0000	ACRES	100-617-ZG
95.0000	ACRES	264-788-AA
95.0000	ACRES	100-1313-ZA

Product Name	Registration Expired
TILT	
SCALA BRAND SC FUNGICIDE	
QUADRIS TOP FUNGICIDE	

RMP	Quantity Used	Quantity Units	Treated Amount	Treated Units
True	760.0000	Ounce	95.0000	ACRES
True	1,216.0000	Ounce	95.0000	ACRES
True	1,330.0000	Ounce	95.0000	ACRES

Appl. Method	Fume Code	Applicator Name	Applicator License #
Aircraft		MOE'S FLYING SERVICE	45949
Aircraft		MOE'S FLYING SERVICE	45949
Aircraft		MOE'S FLYING SERVICE	45949

Applicator License Type	Applicator Address	Days Reentry	Days Pre-Harvest
PCM	PO BOX 804 MARYSVILLE CA 95901	1	60
PCM	PO BOX 804 MARYSVILLE CA 95901	1	30
PCM	PO BOX 804 MARYSVILLE CA 95901	1	28

Document#	Submitted By	Submitted Date	Entered By	Time Stamp Date
WEB2418370236			moes58	2/29/2024
WEB2418370238			moes58	2/29/2024
WEB2418461186			moes58	4/2/2024

Time Stamp Time	Rpt Status	Sub Status	School Notify
12:18 AM	ACC	DPR	Not Required
12:21 AM	ACC	DPR	Not Required
9:28 AM	ACC	DPR	Not Required

APPENDIX F

EDR RADIUS MAP REPORT

OPUD 30-Acre Parcel
Located SE of The Olivehurst WWTP
Olivehurst, CA 95961

Inquiry Number: 7856384.2s
December 24, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	16
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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-11
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

LOCATED SE OF THE OLIVEHURST WWTP
OLIVEHURST, CA 95961

COORDINATES

Latitude (North):	39.0610060 - 39° 3' 39.62''
Longitude (West):	121.5487790 - 121° 32' 55.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	625561.8
UTM Y (Meters):	4324340.5
Elevation:	60 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50004810 OLIVEHURST, CA
Version Date:	2021

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200710
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
LOCATED SE OF THE OLIVEHURST WWTP
OLIVEHURST, CA 95961

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	ARBOGA ELEMENTARY SC	1686 BROADWAY ROAD	ENVIROSTOR, SCH, NPDES, CIWQS, CERS	Lower	3271, 0.620, SSW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

Federal ERNS list

ERNS ..... Emergency Response Notification System

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE ..... State Response Sites

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ..... Solid Waste Information System

Lists of state and tribal leaking storage tanks

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases

Lists of state and tribal registered storage tanks

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

Lists of state and tribal brownfield sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
CERS HAZ WASTE ---- California Environmental Reporting System Hazardous Waste
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CERS TANKS ---- California Environmental Reporting System (CERS) Tanks
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data

EXECUTIVE SUMMARY

CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
MINES MRDS	Mineral Resources Data System
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS PROJECT	NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAIN	Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
UST FINDER	UST Finder Database
UST FINDER RELEASE	UST Finder Releases Database
E MANIFEST	Hazardous Waste Electronic Manifest System
PFAS	PFAS Investigation Site Location Listing
AQUEOUS FOAM	Former Fire Training Facility Assessments Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
CHROME PLATING	Chrome Plating Facilities Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
ICE	Inspection, Compliance and Enforcement
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
HWTS	Hazardous Waste Tracking System
HAZNET	Facility and Manifest Data
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
HAZMAT	Hazardous Material Facilities
UIC	UIC Listing

UIC GEO ---- UIC GEO (GEOTRACKER)
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)
WDR ---- Waste Discharge Requirements Listing
CIWQS ---- California Integrated Water Quality System
CERS ---- CERS
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal

EXECUTIVE SUMMARY

Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/22/2024 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

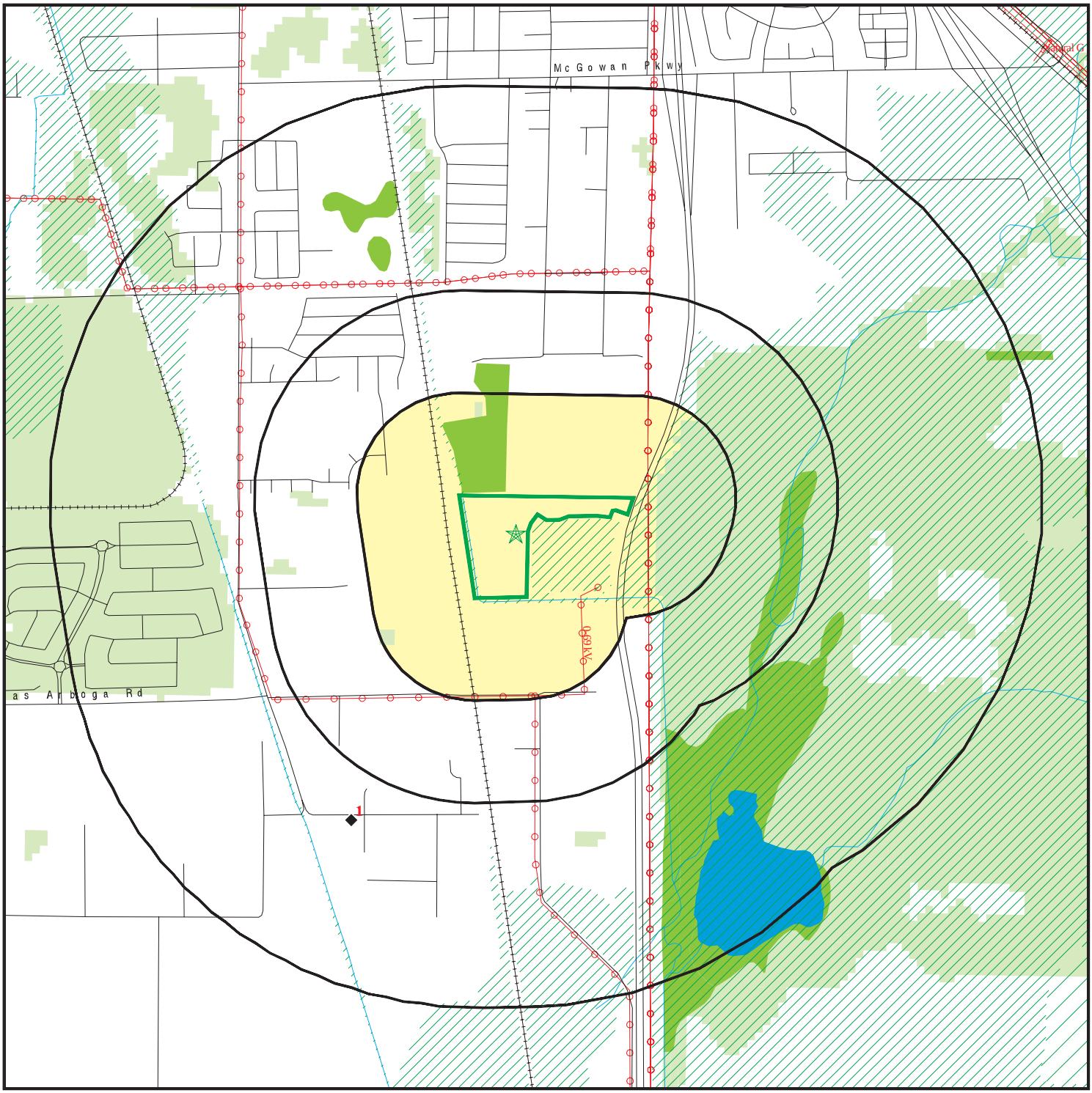
Lower Elevation	Address	Direction / Distance	Map ID	Page
ARBOGA ELEMENTARY SC	***1686 BROADWAY ROAD***	***SSW 1/2 - 1 (0.620 mi.)***	***1***	***9***
Facility Id: 60000952				
Status: No Further Action				

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
PG&E FORMER MANUFACTURED GAS PLANT	CPS-SLIC
MARQUIS AIRSTRIP	ENVIROSTOR

OVERVIEW MAP - 7856384.2S



0 1/4 1/2 1 Miles

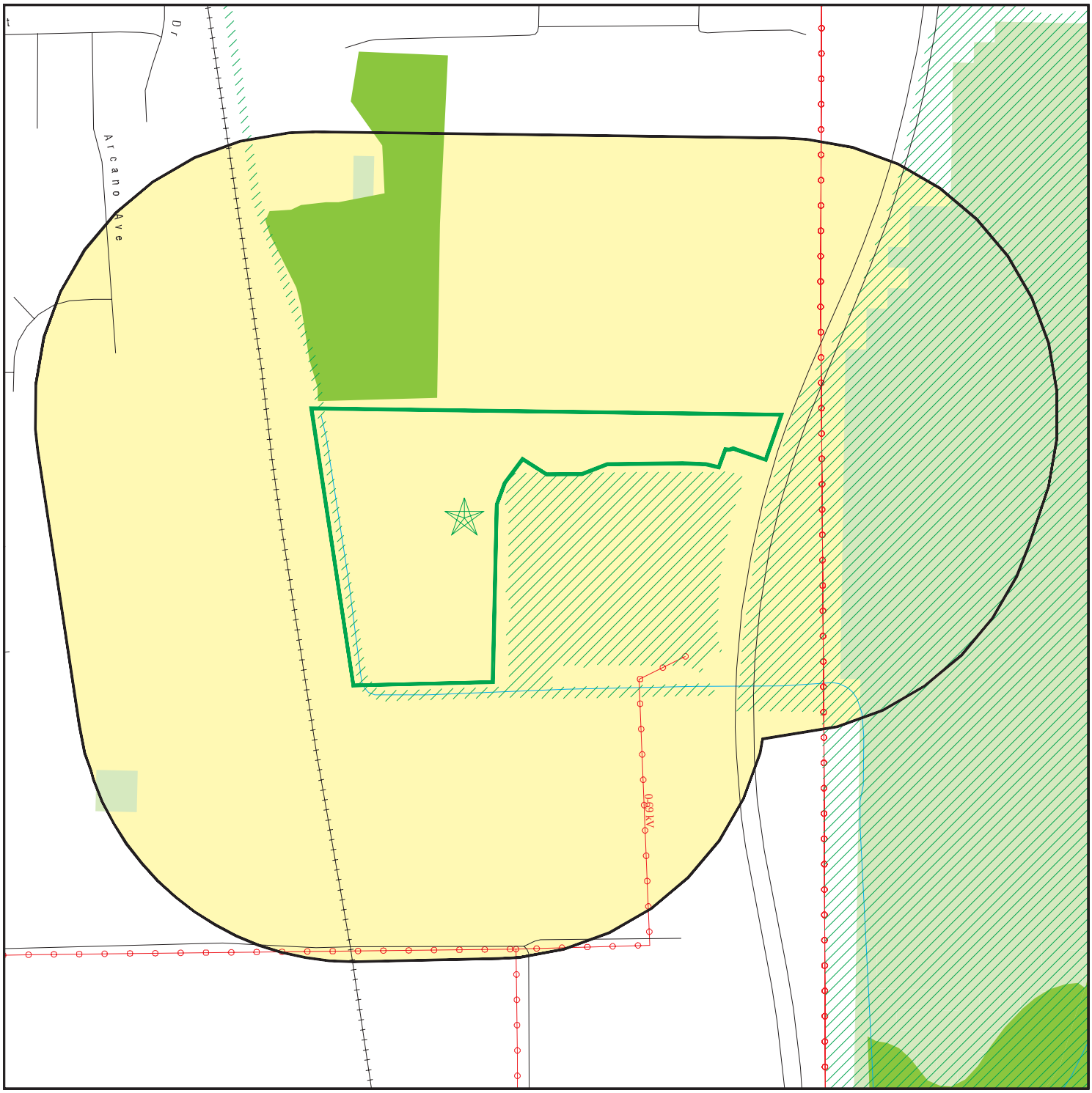
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	OPUD 30-Acre Parcel	CLIENT:	Padre Associates, Inc
ADDRESS:	Located SE of The Olivehurst WWTP Olivehurst CA 95961	CONTACT:	Alan Klein
		INQUIRY #:	7856384.2s
LAT/LONG:	39.061006 / 121.548779	DATE:	December 24, 2024 1:20 pm

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DETAIL MAP - 7856384.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	OPUD 30-Acre Parcel	CLIENT:	Padre Associates, Inc
ADDRESS:	Located SE of The Olivehurst WWTP Olivehurst CA 95961	CONTACT:	Alan Klein
		INQUIRY #:	7856384.2s
LAT/LONG:	39.061006 / 121.548779	DATE:	December 24, 2024 1:21 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	0	1	NR	1
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
E MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CHROME PLATING	0.500		0	0	0	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWTS	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	0	0	1	0	1

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 **ARBOGA ELEMENTARY SCHOOL MODERNIZATION** **ENVIROSTOR** **S109149579**
SSW **1686 BROADWAY ROAD** **SCH** **N/A**
1/2-1 **MARYSVILLE, CA 95961** **NPDES**
0.620 mi. **CIWQS**
3271 ft. **CERS**

Relative:
Lower

Actual:
55 ft.

ENVIROSTOR:

Name:	ARBOGA ELEMENTARY SCHOOL
Address:	1686 BROADWAY ROAD
City,State,Zip:	ARBOGA, CA 95961
Facility ID:	60000952
Status:	No Further Action
Status Date:	04/13/2010
Site Code:	104637
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	11.29
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Mary Gaspari
Supervisor:	* Mark Malinowski
Division Branch:	Santa Susana Field Laboratory Branch
Assembly:	03
Senate:	01
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	39.05006
Longitude:	-121.5565
APN:	014-330-004, 014330004000
Past Use:	SCHOOL - ELEMENTARY
Potential COC:	Arsenic Chlordane DDD DDE DDT Lead Polychlorinated biphenyls (PCBs TPH-diesel TPH-gas TPH-MOTOR OIL Dieldrin
Confirmed COC:	30001-NO 30004-NO 30013-NO 30006-NO 30007-NO 30008-NO No Contaminants found 30024-NO 30025-NO 30207-NO 3002502-NO 30018-NO
Potential Description:	SOIL
Alias Name:	014-330-004
Alias Type:	APN
Alias Name:	014330004000
Alias Type:	APN
Alias Name:	104637
Alias Type:	Project Code (Site Code)
Alias Name:	60000952
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	08/29/2008
Comments:	DTSC executed EOA. Mailed 1 copy to District
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	05/15/2009
Comments:	DTSC issued a letter for partial site approval to allow construction in the northeast area. This was to help the District meet their

ARBOGA ELEMENTARY SCHOOL MODERNIZATION (Continued) **S109149579**

construction schedule for this site. This approval does not provide the District with a means to request funding or allow for occupancy of Building J.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 08/22/2008
Comments: DTSC sent notification to the District that the Project Manager for this site has changed from Jose Luevano to Michael Hall.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Standard Voluntary Agreement
Completed Date: 09/16/2009
Comments: DTSC signed the VCA and sent one fully executed original to RP. The other original is maintained in the Project File.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 03/05/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 08/10/2009
Comments: DTSC approved the PEA report with a further action determination

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 09/01/2009
Comments: DTSC approved the SSI Technical Memo.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 10/21/2009
Comments: DTSC received the Tech Memo SSI as background information for a possible housekeeping activity.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 03/26/2010
Comments: DTSC approved the SSI Report with a no further action determination

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 12/19/2008
Comments: DTSC receives a Phase I ESA as background information.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

ARBOGA ELEMENTARY SCHOOL MODERNIZATION (Continued) **S109149579**

Completed Document Type:	Other Report
Completed Date:	12/19/2008
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	03/26/2009
Comments:	DTSC received a copy of the reporting limits for PAHs as requested and approved the PEA Workplan by e-mail.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	ARBOGA ELEMENTARY SCHOOL
Address:	1686 BROADWAY ROAD
City,State,Zip:	ARBOGA, CA 95961
Facility ID:	60000952
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	11.29
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Mary Gaspari
Supervisor:	* Mark Malinowski
Division Branch:	Santa Susana Field Laboratory Branch
Site Code:	104637
Assembly:	03
Senate:	01
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	04/13/2010
Restricted Use:	NO
Funding:	School District
Latitude:	39.05006
Longitude:	-121.5565
APN:	014-330-004, 014330004000
Past Use:	SCHOOL - ELEMENTARY
Potential COC:	Arsenic, Arsenic, Chlordane, DDD, DDE, DDT, Lead, Polychlorinated biphenyls (PCBs, TPH-diesel, TPH-gas, TPH-MOTOR OIL, Dieldrin
Confirmed COC:	30001-NO, 30004-NO, 30013-NO, 30006-NO, 30007-NO, 30008-NO, No Contaminants found, 30024-NO, 30025-NO, 30207-NO, 3002502-NO, 30018-NO Not reported
Potential Description:	SOIL
Alias Name:	014-330-004

ARBOGA ELEMENTARY SCHOOL MODERNIZATION (Continued) **S109149579**

Alias Type: APN
Alias Name: 014330004000
Alias Type: APN
Alias Name: 104637
Alias Type: Project Code (Site Code)
Alias Name: 60000952
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 08/29/2008
Comments: DTSC executed EOA. Mailed 1 copy to District

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 05/15/2009
Comments: DTSC issued a letter for partial site approval to allow construction in the northeast area. This was to help the District meet their construction schedule for this site. This approval does not provide the District with a means to request funding or allow for occupancy of Building J.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 08/22/2008
Comments: DTSC sent notification to the District that the Project Manager for this site has changed from Jose Luevano to Michael Hall.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Standard Voluntary Agreement
Completed Date: 09/16/2009
Comments: DTSC signed the VCA and sent one fully executed original to RP. The other original is maintained in the Project File.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 03/05/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 08/10/2009
Comments: DTSC approved the PEA report with a further action determination

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Tech Memo
Completed Date: 09/01/2009
Comments: DTSC approved the SSI Technical Memo.

Completed Area Name: PROJECT WIDE

ARBOGA ELEMENTARY SCHOOL MODERNIZATION (Continued) **S109149579**

Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 10/21/2009
Comments: DTSC received the Tech Memo SSI as background information for a possible housekeeping activity.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 03/26/2010
Comments: DTSC approved the SSI Report with a no further action determination

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 12/19/2008
Comments: DTSC receives a Phase I ESA as background information.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 12/19/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 03/26/2009
Comments: DTSC received a copy of the reporting limits for PAHs as requested and approved the PEA Workplan by e-mail.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

NPDES:
Name: ARBOGA ELEMENTARY SCHOOL MODERNIZATION
Address: 1686 BROADWAY ROAD
City,State,Zip: MARYSVILLE, CA 95961
Facility Status: Active
NPDES Number: CAS000002
Region: 5S
Agency Number: 0
Regulatory Measure ID: 537291
Place ID: Not reported
Order Number: 2009-0009-DWQ
WDID: 5S58C394196
Regulatory Measure Type: Enrollee
Program Type: Construction
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: 06/18/2021

ARBOGA ELEMENTARY SCHOOL MODERNIZATION (Continued) **S109149579**

Termination Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Discharge Address:	1919 B Street
Discharge Name:	Marysville Joint Unified School District
Discharge City:	Marysville
Discharge State:	California
Discharge Zip:	95961
Status:	Not reported
Status Date:	Not reported
Operator Name:	Not reported
Operator Address:	Not reported
Operator City:	Not reported
Operator State:	Not reported
Operator Zip:	Not reported

Name:	ARBOGA ELEMENTARY SCHOOL MODERNIZATION
Address:	1686 BROADWAY ROAD
City,State,Zip:	MARYSVILLE, CA 95961
Facility Status:	Not reported
NPDES Number:	Not reported
Region:	Not reported
Agency Number:	Not reported
Regulatory Measure ID:	Not reported
Place ID:	Not reported
Order Number:	Not reported
WDID:	5S58C394196
Regulatory Measure Type:	Construction
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Discharge Address:	Not reported
Discharge Name:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Status:	Active
Status Date:	06/18/2021
Operator Name:	Marysville Joint Unified School District
Operator Address:	1919 B Street
Operator City:	Marysville
Operator State:	California
Operator Zip:	95961

CIWQS:

Name:	Arboga Elementary School Modernization
Address:	1686 BROADWAY ROAD
City,State,Zip:	MARYSVILLE, CA 95961
Agency:	Marysville Joint Unified School District
Agency Address:	1919 B Street, Marysville, CA 95961
Place/Project Type:	Construction - Commercial
SIC/NAICS:	Not reported
Region:	5S
Program:	CONSTW
Regulatory Measure Status:	Active
Regulatory Measure Type:	Storm water construction

ARBOGA ELEMENTARY SCHOOL MODERNIZATION (Continued) **S109149579**

Order Number:	2009-0009-DWQ
WDID:	5S58C394196
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	06/18/2021
Termination Date:	Not reported
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	39.05095
Longitude:	-121.55605

CERS:

Name:	ARBOGA ELEMENTARY SCHOOL MODERNIZATION
Address:	1686 BROADWAY ROAD
City,State,Zip:	MARYSVILLE, CA 95961
Site ID:	578882
CERS ID:	894907
CERS Description:	Construction Storm Water

Affiliation:

Affiliation Type Desc:	Owner/Operator
Entity Name:	Marysville Joint Unified School District
Entity Title:	Operator
Affiliation Address:	1919 B Street
Affiliation City:	Marysville
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95961
Affiliation Phone:	,

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ARBOGA	S100351751	MARQUIS AIRSTRIP	BROADWAY AV	95961	ENVIROSTOR
MARYSVILLE	S106230607	PG&E FORMER MANUFACTURED GAS PLANT	4TH & 5TH STS		CPS-SLIC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/20/2024
Date Data Arrived at EDR: 12/18/2024
Date Made Active in Reports: 12/20/2024
Number of Days to Update: 2

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/18/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 80

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/15/2024
Date Data Arrived at EDR: 07/17/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 84

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/24/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/15/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/24/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/15/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/11/2024
Date Data Arrived at EDR: 06/17/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 79

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/11/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/22/2024
Date Data Arrived at EDR: 07/22/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/22/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/22/2024
Date Data Arrived at EDR: 07/22/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/22/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/05/2024
Date Data Arrived at EDR: 08/06/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 83

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/11/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22
Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/15/2024
Date Data Arrived at EDR: 03/19/2024
Date Made Active in Reports: 06/17/2024
Number of Days to Update: 90
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 03/05/2024
Date Made Active in Reports: 06/03/2024
Number of Days to Update: 90

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 2

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/04/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/11/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/10/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/22/2024
Date Data Arrived at EDR: 07/22/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/22/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/02/2024
Number of Days to Update: 76

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/11/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/09/2024
Date Data Arrived at EDR: 09/11/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/13/2024
Date Data Arrived at EDR: 11/15/2024
Date Made Active in Reports: 12/12/2024
Number of Days to Update: 27

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 10/30/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 11/19/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 11/13/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 6
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/20/2024
Date Data Arrived at EDR: 08/19/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 51
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/22/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/22/2024
Date Data Arrived at EDR: 07/22/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 79
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/22/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 03/21/2024
Date Made Active in Reports: 06/12/2024
Number of Days to Update: 83
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: California Environmental Reporting System Hazardous Waste
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 07/10/2024
Date Data Arrived at EDR: 07/10/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 2
Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/20/2024
Date Data Arrived at EDR: 08/19/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 51
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/22/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 07/29/2024
Date Data Arrived at EDR: 07/30/2024
Date Made Active in Reports: 10/17/2024
Number of Days to Update: 79
Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 07/10/2024
Date Data Arrived at EDR: 07/10/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 2

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/31/2024
Date Data Arrived at EDR: 06/21/2024
Date Made Active in Reports: 09/11/2024
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/19/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 08/22/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/05/2024
Number of Days to Update: 75

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/14/2024
Date Data Arrived at EDR: 06/17/2024
Date Made Active in Reports: 06/24/2024
Number of Days to Update: 7

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/11/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 07/19/2024
Date Data Arrived at EDR: 07/22/2024
Date Made Active in Reports: 10/08/2024
Number of Days to Update: 78

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 2

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 07/31/2024
Date Data Arrived at EDR: 08/12/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 58

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/12/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/10/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/04/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/20/2024
Number of Days to Update: 94

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 10/31/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/13/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/14/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/11/2024
Date Data Arrived at EDR: 07/11/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 1

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/24/2024
Date Data Arrived at EDR: 11/01/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 18

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/12/2024
Date Data Arrived at EDR: 07/17/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/12/2024
Date Data Arrived at EDR: 10/17/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 33

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/31/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 12/17/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/04/2024
Date Data Arrived at EDR: 10/16/2024
Date Made Active in Reports: 12/06/2024
Number of Days to Update: 51
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2024
Date Data Arrived at EDR: 07/08/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 80

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/08/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 14

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/14/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/06/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 1

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/18/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 10/01/2024
Date Data Arrived at EDR: 10/02/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 7

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/02/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 50

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2024
Date Data Arrived at EDR: 09/11/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 69

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/10/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/22/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 8

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/23/2024
Date Data Arrived at EDR: 06/28/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/13/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 57

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/08/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 05/19/2023
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 06/06/2024
Number of Days to Update: 62

Source: Social Science Environmental Health Research Institute
Telephone: N/A
Last EDR Contact: 12/05/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 10/13/2024
Date Data Arrived at EDR: 10/16/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA’s UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA’s Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/20/2024
Number of Days to Update: 94

Source: Environmental Protection Agency
Telephone: 833-501-6826
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS sites included in the Envirostor and GeoTracker databases. Locations of potential sources of per - and polyfluoroalkyl substances (PFAS). This does not mean that PFAS has been produced, used, or discharged at these sites.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 09/03/2024
Number of Days to Update: 6

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing

Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 11/12/2024
Number of Days to Update: 76

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHROME PLATING: Chrome Plating Facilities Listing

This listing represents chrome plating facilities the California State Water Resources Control Board staff identified as possibly being a source of Per- and polyfluoroalkyl substance (PFAS) contamination. Sites and locations were identified by staff with the Division of Water Quality in the California State Water Board. Data was collected from the CA Air Resources Board 2013 and 2018 - Cr VI emission survey, CA Emission Inventory, CA HAZ Waste discharge database and by reviewing storm water permits. Former chrome plating sites are also included that are open site investigation or remediation cases with the Regional Water Quality Control Boards and the Department of Toxic Substances Control.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 11/12/2024
Number of Days to Update: 76

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/16/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/02/2024
Number of Days to Update: 76

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/11/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

CUPA LIV-PLE: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 77

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 11/05/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

DRYCLEAN MOJAVE: Mojave Desert Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mojave Desert Air Quality Management District.

Date of Government Version: 08/21/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/05/2024
Number of Days to Update: 75

Source: Mojave Desert Air Quality Management District
Telephone: 760-245-1661
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN TEHAMA: Tehama County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Tehama County Air Pollution Control District.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1468

Source: Tehama County Air Pollution Control District
Telephone: 530-527-3717
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MONTERY BAY: Monterey Bay Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Monterey Bay Air Quality Management District.

Date of Government Version: 09/09/2024
Date Data Arrived at EDR: 09/11/2024
Date Made Active in Reports: 11/26/2024
Number of Days to Update: 76

Source: Monterey Bay Air Quality Management District
Telephone: 831-647-9411
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AMADOR: Amador Air District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Amador Air Quality Management District

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador Air Quality Management District
Telephone: 209-257-0112
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN N SIERRA: Northern Sierra Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sierra Air Quality Management District,

Date of Government Version: 08/22/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/05/2024
Number of Days to Update: 75

Source: Northern Sierra Air Quality Management District
Telephone: 530-274-9350
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SANTA BARB: Santa Barbara County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Santa Barbara County Air Pollution Control District.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475

Source: Santa Barbara County Air Pollution Control District
Telephone: 805-961-8867
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN VENTURA: Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Ventura County Air Pollution Control District.

Date of Government Version: 08/26/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 11/14/2024
Number of Days to Update: 78

Source: Ventura County Air Pollution Control District
Telephone: 805-645-1421
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 09/05/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 69

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Annually

DRYCLEAN SHASTA: Shasta County Air Quality Management District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Shasta County Air Quality Management District.

Date of Government Version: 08/29/2024
Date Data Arrived at EDR: 09/05/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 69

Source: Shasta County Air Quality Management District
Telephone: 530-225-5674
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN EAST KERN: Eastern Kern Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Eastern Kern Air Pollution Control District.

Date of Government Version: 08/21/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/05/2024
Number of Days to Update: 75

Source: Eastern Kern Air Pollution Control District
Telephone: 661-862-9684
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN JOAQUIN: San Joaquin Valley Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Joaquin Valley Air Pollution Control District.

Date of Government Version: 08/22/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/05/2024
Number of Days to Update: 75

Source: San Joaquin Valley Air Pollution Control District
Telephone: 559-230-6001
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GLENN: Glenn County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Glenn County Air Pollution Control District.

Date of Government Version: 08/26/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 77

Source: Glenn County Air Pollution Control District
Telephone: 530-934-6500
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BUTTE: Butte County Air Quality Management DistrictDrycleaner Facility Listing
Butte County Air Quality Management DistrictDrycleaner Facility Listing.

Date of Government Version: 09/10/2024
Date Data Arrived at EDR: 09/11/2024
Date Made Active in Reports: 11/25/2024
Number of Days to Update: 75

Source: Butte County Air Quality Management District
Telephone: 530-332-9400
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN FEATHER RVR: Feather River Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Feather River Air Quality Management District.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 06/05/2023
Number of Days to Update: 88

Source: Feather River Air Quality Management District
Telephone: 530-634-7659
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 05/29/2024
Date Data Arrived at EDR: 11/07/2024
Date Made Active in Reports: 11/22/2024
Number of Days to Update: 15

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/07/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Varies

DRYCLEAN N SONOMA: Norther Sonoma County County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sonoma County Air Pollution Control District.,

Date of Government Version: 08/23/2024
Date Data Arrived at EDR: 08/26/2024
Date Made Active in Reports: 11/05/2024
Number of Days to Update: 71

Source: Santa Barbara County Air Pollution Control District
Telephone: 707-433-5911
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GRANT: Grant Recipients List
Assembly Bill 998 (AB 998) established the Non-Toxic Dry Cleaning Incentive Program to provide financial assistance to the dry cleaning industry to switch from systems using perchloroethylene (Perc), an identified toxic air contaminant and potential human carcinogen, to non-toxic and non-smog forming alternatives.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 01/26/2024
Date Made Active in Reports: 04/16/2024
Number of Days to Update: 81

Source: California Air Resources Board
Telephone: 916-323-0006
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

DRYCLEAN YOLO-SOLANO: Yolo-Solano Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Yolo-Solano Air Quality Management District.

Date of Government Version: 08/21/2024
Date Data Arrived at EDR: 08/26/2024
Date Made Active in Reports: 11/06/2024
Number of Days to Update: 72
Source: Yolo-Solano Air Quality Management District
Telephone: 530-757-3650
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN LAKE: Lake County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Lake County Air Quality Management District,

Date of Government Version: 02/15/2024
Date Data Arrived at EDR: 02/16/2024
Date Made Active in Reports: 05/02/2024
Number of Days to Update: 76
Source: Lake County Air Quality Management District
Telephone: 707-263-7000
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 08/14/2024
Date Data Arrived at EDR: 09/05/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 69
Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

DRYCLEAN SAN DIEGO: San Diego County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Diego County Air Pollution Control District.

Date of Government Version: 08/21/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 77
Source: San Diego County Air Pollution Control District
Telephone: 858-586-2616
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MENDOCINO: Mendocino County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mendocino County Air Quality Management District.

Date of Government Version: 08/26/2024
Date Data Arrived at EDR: 09/03/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 71
Source: Mendocino County Air Quality Management District
Telephone: 707-463-4354
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SACRAMENTO: Sacramento Metropolitan Air Quality Management DistrictDrycleaner Facility Listing
A listing of drycleaner facility locations, for the Sacramento Metropolitan Air Quality Management District.

Date of Government Version: 09/03/2024
Date Data Arrived at EDR: 09/05/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 69
Source: Sacramento Metropolitan Air Quality Management District
Telephone: 916-874-3958
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN IMPERIAL: Imperial County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Imperial County Air Pollution Control District

Date of Government Version: 10/02/2024
Date Data Arrived at EDR: 10/03/2024
Date Made Active in Reports: 12/20/2024
Number of Days to Update: 78
Source: Imperial County Air Pollution Control District
Telephone: 442-265-1800
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN LUIS OB: San Luis Obispo County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Luis Obispo County Air Pollution Control District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 76
Source: San Luis Obispo County Air Pollution Control District
Telephone: 805-781-5756
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN PLACER: Placer County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Placer County Air Quality Management District.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 89
Source: Placer County Air Quality Management District
Telephone: 530-745-2335
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BAY AREA: Bay Area Air Quality Management District Drycleaner Facility Listing
Bay Area Air Quality Management District Drycleaner Facility Listing.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1432
Source: Bay Area Air Quality Management District
Telephone: 415-516-1916
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN CALAVERAS: Calaveras County Environmental Management Agency Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Calaveras County Environmental Management Agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1412
Source: Calaveras County Environmental Management Agency
Telephone: 209-754-6399
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN N COAST: North Coast Unified Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the North Coast Unified Air Quality Management District.

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1473
Source: North Coast Unified Air Quality Management District
Telephone: 707-443-3093
Last EDR Contact: 08/21/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 06/11/2024
Date Made Active in Reports: 09/03/2024
Number of Days to Update: 84
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/15/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 10/08/2024
Number of Days to Update: 84
Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FIN ASSURANCE 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 07/10/2024
Date Data Arrived at EDR: 07/11/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

FIN ASSURANCE 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/07/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 14

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 10/30/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

ICE: Inspection, Compliance and Enforcement
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/12/2024
Date Data Arrived at EDR: 08/12/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 77

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/08/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/12/2024
Date Data Arrived at EDR: 08/12/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/08/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 09/30/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 12/13/2024
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 07/19/2024
Date Data Arrived at EDR: 07/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 29

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 12/12/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/25/2024
Number of Days to Update: 85

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Annually

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/03/2024
Date Data Arrived at EDR: 09/04/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 70

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 07/26/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/06/2024
Number of Days to Update: 76

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/05/2024
Date Data Arrived at EDR: 08/06/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/05/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 08/22/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/06/2024
Number of Days to Update: 76

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 2
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/05/2024
Date Data Arrived at EDR: 09/06/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 68
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/04/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82
Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Annually

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 09/02/2024
Date Data Arrived at EDR: 09/04/2024
Date Made Active in Reports: 09/05/2024
Number of Days to Update: 1
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/07/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/10/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/03/2024
Date Data Arrived at EDR: 09/04/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/03/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 08/20/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 08/22/2024
Number of Days to Update: 2

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data
The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 07/10/2024
Date Data Arrived at EDR: 07/10/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 2

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 08/28/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 08/29/2024
Number of Days to Update: 1

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 12/26/2023
Date Made Active in Reports: 03/19/2024
Number of Days to Update: 84

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 09/26/2024
Date Made Active in Reports: 12/12/2024
Number of Days to Update: 77

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/10/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/22/2024
Date Data Arrived at EDR: 07/23/2024
Date Made Active in Reports: 10/10/2024
Number of Days to Update: 79

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/08/2022
Date Data Arrived at EDR: 08/09/2022
Date Made Active in Reports: 09/01/2022
Number of Days to Update: 23

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/28/2021
Date Data Arrived at EDR: 12/21/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 72

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/19/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/11/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 10/03/2024
Number of Days to Update: 79

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/30/2024
Date Data Arrived at EDR: 08/01/2024
Date Made Active in Reports: 10/17/2024
Number of Days to Update: 77

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 11/07/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/30/2024
Date Data Arrived at EDR: 08/01/2024
Date Made Active in Reports: 10/17/2024
Number of Days to Update: 77

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/07/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List

Cupa facility list

Date of Government Version: 07/26/2024
Date Data Arrived at EDR: 07/29/2024
Date Made Active in Reports: 08/08/2024
Number of Days to Update: 10

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List

Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/04/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 09/26/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 12/12/2024
Number of Days to Update: 72

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/04/2024
Date Data Arrived at EDR: 10/04/2024
Date Made Active in Reports: 12/23/2024
Number of Days to Update: 80

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/04/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 10/03/2024
Date Made Active in Reports: 12/17/2024
Number of Days to Update: 75

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/10/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 07/09/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 80

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/10/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 09/01/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/02/2024
Number of Days to Update: 76

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/11/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 09/01/2024
Date Data Arrived at EDR: 09/17/2024
Date Made Active in Reports: 12/02/2024
Number of Days to Update: 76
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/11/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation LA County List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 05/21/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 10/07/2024
Number of Days to Update: 83
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/16/2024
Date Data Arrived at EDR: 04/17/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 86
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 12/16/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/08/2024
Date Data Arrived at EDR: 10/09/2024
Date Made Active in Reports: 10/31/2024
Number of Days to Update: 22

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 10/04/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 12/16/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 04/23/2024
Date Data Arrived at EDR: 04/25/2024
Date Made Active in Reports: 06/26/2024
Number of Days to Update: 62

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups Orange County
Petroleum and non-petroleum spills.

Date of Government Version: 08/06/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 81

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/28/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/06/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 81

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/28/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/06/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 10/29/2024
Number of Days to Update: 82

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/28/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/22/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/06/2024
Number of Days to Update: 76
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/19/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 06/11/2024
Date Data Arrived at EDR: 06/12/2024
Date Made Active in Reports: 06/27/2024
Number of Days to Update: 15
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/04/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 06/11/2024
Date Data Arrived at EDR: 06/12/2024
Date Made Active in Reports: 06/27/2024
Number of Days to Update: 15
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/04/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/16/2023
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/16/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/09/2022
Date Made Active in Reports: 03/01/2023
Number of Days to Update: 82
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/16/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2024
Date Data Arrived at EDR: 08/01/2024
Date Made Active in Reports: 08/07/2024
Number of Days to Update: 6

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/20/2024
Number of Days to Update: 6

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 10/28/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 08/22/2024
Date Data Arrived at EDR: 08/22/2024
Date Made Active in Reports: 11/06/2024
Number of Days to Update: 76

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 11/20/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2023
Date Data Arrived at EDR: 01/31/2024
Date Made Active in Reports: 04/17/2024
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 86

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/19/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 07/29/2024
Date Data Arrived at EDR: 07/30/2024
Date Made Active in Reports: 10/17/2024
Number of Days to Update: 79
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 07/26/2024
Date Data Arrived at EDR: 07/30/2024
Date Made Active in Reports: 10/17/2024
Number of Days to Update: 79
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Quarterly

SAN FRANCISO COUNTY:

SAN FRANCISCO MAHER: Maher Ordinance Property Listing
a listing of properties that fall within a Maher Ordinance, for all of San Francisco

Date of Government Version: 07/15/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 85
Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/04/2024
Next Scheduled EDR Contact: 03/24/2025
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/07/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 81

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/05/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 11/26/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/12/2024
Date Data Arrived at EDR: 08/13/2024
Date Made Active in Reports: 10/28/2024
Number of Days to Update: 76

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/07/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: No Update Planned

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/04/2025
Data Release Frequency: Varies

SITE MIT SANTA CRUZ: Site Mitigation Santa Cruz County List
Sites may become contaminated with toxic chemicals through illegal dumping or disposal, from leaking underground storage tanks, or through industrial or commercial activities.The goal of the site mitigation program is to protect the public health and the environment while facilitating completion of contaminated site clean-up projects in a timely manner.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 20

Source: Santa Cruz Environmental Health Services
Telephone: 831-454-2761
Last EDR Contact: 11/06/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/07/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/19/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/19/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/10/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/10/2024
Next Scheduled EDR Contact: 03/31/2025
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2022
Date Data Arrived at EDR: 02/10/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 07/29/2024
Date Data Arrived at EDR: 09/06/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 68

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 11/19/2024
Next Scheduled EDR Contact: 03/10/2025
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 08/28/2024
Date Made Active in Reports: 11/12/2024
Number of Days to Update: 76

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/11/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 10/03/2024
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/07/2022
Date Data Arrived at EDR: 10/07/2022
Date Made Active in Reports: 12/21/2022
Number of Days to Update: 75

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 07/02/2024
Date Data Arrived at EDR: 07/17/2024
Date Made Active in Reports: 07/23/2024
Number of Days to Update: 6

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/16/2024
Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/30/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 07/02/2024
Date Data Arrived at EDR: 07/18/2024
Date Made Active in Reports: 07/23/2024
Number of Days to Update: 5
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 09/04/2024
Date Made Active in Reports: 11/13/2024
Number of Days to Update: 70
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/05/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 09/18/2024
Date Data Arrived at EDR: 09/25/2024
Date Made Active in Reports: 12/13/2024
Number of Days to Update: 79
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/16/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/18/2024
Date Data Arrived at EDR: 07/19/2024
Date Made Active in Reports: 10/07/2024
Number of Days to Update: 80
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/05/2024
Date Data Arrived at EDR: 08/06/2024
Date Made Active in Reports: 10/25/2024
Number of Days to Update: 80
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/05/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 12/23/2024
Next Scheduled EDR Contact: 04/14/2025
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/07/2024
Next Scheduled EDR Contact: 02/24/2025
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 11/27/2024
Next Scheduled EDR Contact: 03/17/2025
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

OPUD 30-ACRE PARCEL
LOCATED SE OF THE OLIVEHURST WWTP
OLIVEHURST, CA 95961

TARGET PROPERTY COORDINATES

Latitude (North):	39.061006 - 39° 3' 39.62''
Longitude (West):	121.548779 - 121° 32' 55.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	625561.8
UTM Y (Meters):	4324340.5
Elevation:	60 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50004810 OLIVEHURST, CA
Version Date:	2021

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

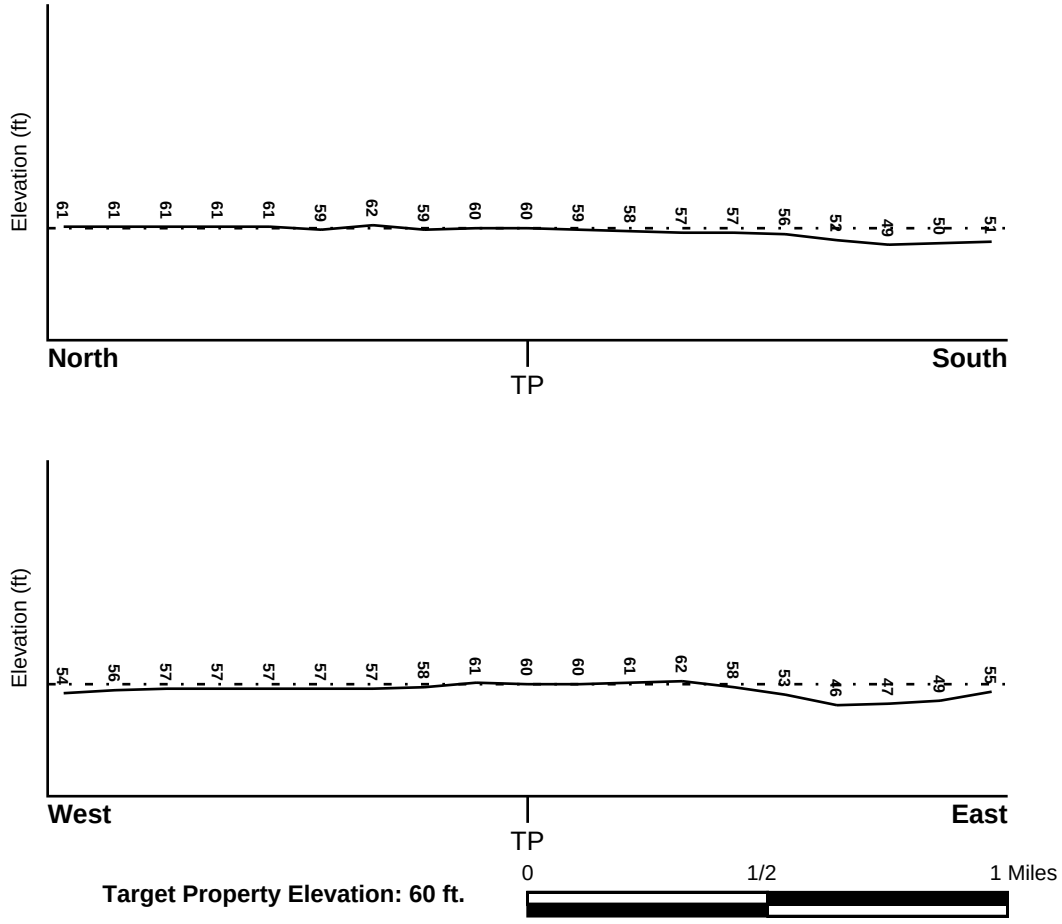
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06115C0420D	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06115C0410D	FEMA FIRM Flood data
0603940605E	FEMA FIRM Flood data
0603940615E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
OLIVEHURST	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

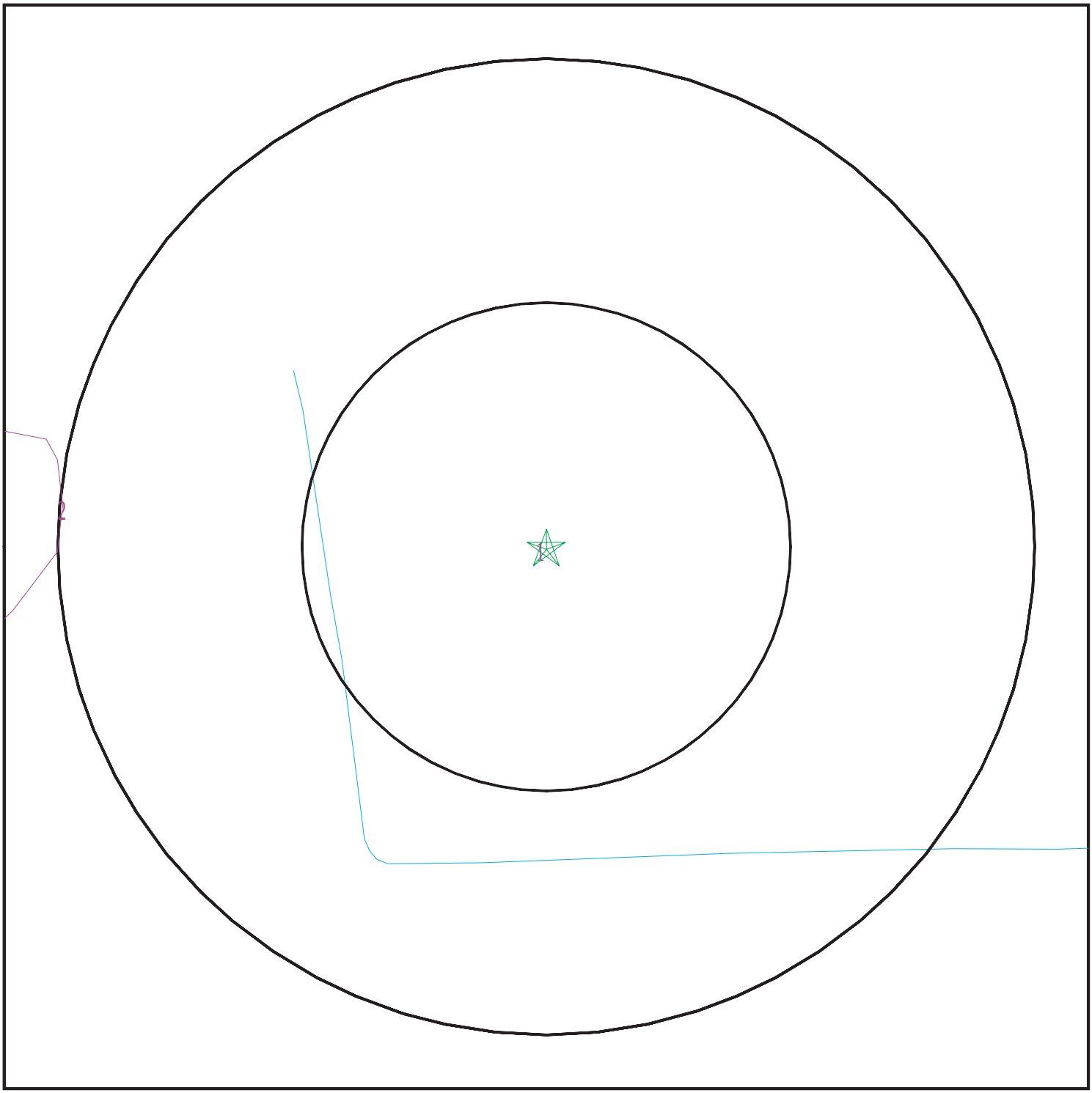
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7856384.2s



Target Property
SSURGO Soil
Water

SITE NAME:	OPUD 30-Acre Parcel	CLIENT:	Padre Associates, Inc
ADDRESS:	Located SE of The Olivehurst WWTP Olivehurst CA 95961	CONTACT:	Alan Klein
LAT/LONG:	39.061006 / 121.548779	INQUIRY #:	7856384.2s
		DATE:	December 24, 2024 1:21 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: SAN JOAQUIN

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 7.8 Min: 6.1
2	16 inches	25 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 7.8 Min: 6.1

Soil Map ID: 2

Soil Component Name: HOLLENBECK

Soil Surface Texture: silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	7 inches	42 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	42 inches	46 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
3	USGS40000191409	1/8 - 1/4 Mile SSE
4	USGS40000191417	1/8 - 1/4 Mile WSW
B6	USGS40000191423	1/4 - 1/2 Mile West
7	USGS40000191470	1/4 - 1/2 Mile North
B8	USGS40000191432	1/4 - 1/2 Mile West
9	USGS40000191369	1/4 - 1/2 Mile SSE
C14	USGS40000191467	1/4 - 1/2 Mile NW
16	USGS40000191374	1/4 - 1/2 Mile SW
17	USGS40000191358	1/4 - 1/2 Mile South
D18	USGS40000191387	1/4 - 1/2 Mile SW
19	USGS40000191357	1/2 - 1 Mile SSE
E21	USGS40000191376	1/2 - 1 Mile SW
22	USGS40000191354	1/2 - 1 Mile SW
24	USGS40000191445	1/2 - 1 Mile WNW
26	USGS40000191335	1/2 - 1 Mile South
27	USGS40000191424	1/2 - 1 Mile West
28	USGS40000191440	1/2 - 1 Mile West
30	USGS40000191479	1/2 - 1 Mile NW
31	USGS40000191419	1/2 - 1 Mile West
F32	USGS40000191343	1/2 - 1 Mile SSW
35	USGS40000191523	1/2 - 1 Mile North
41	USGS40000191372	1/2 - 1 Mile WSW
43	USGS40000191535	1/2 - 1 Mile North
H44	USGS40000191338	1/2 - 1 Mile SW
I47	USGS40000191542	1/2 - 1 Mile NNE
48	USGS40000191352	1/2 - 1 Mile SW
J49	USGS40000191325	1/2 - 1 Mile SW
50	USGS40000191371	1/2 - 1 Mile ESE
52	USGS40000191339	1/2 - 1 Mile SW
55	USGS40000191471	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

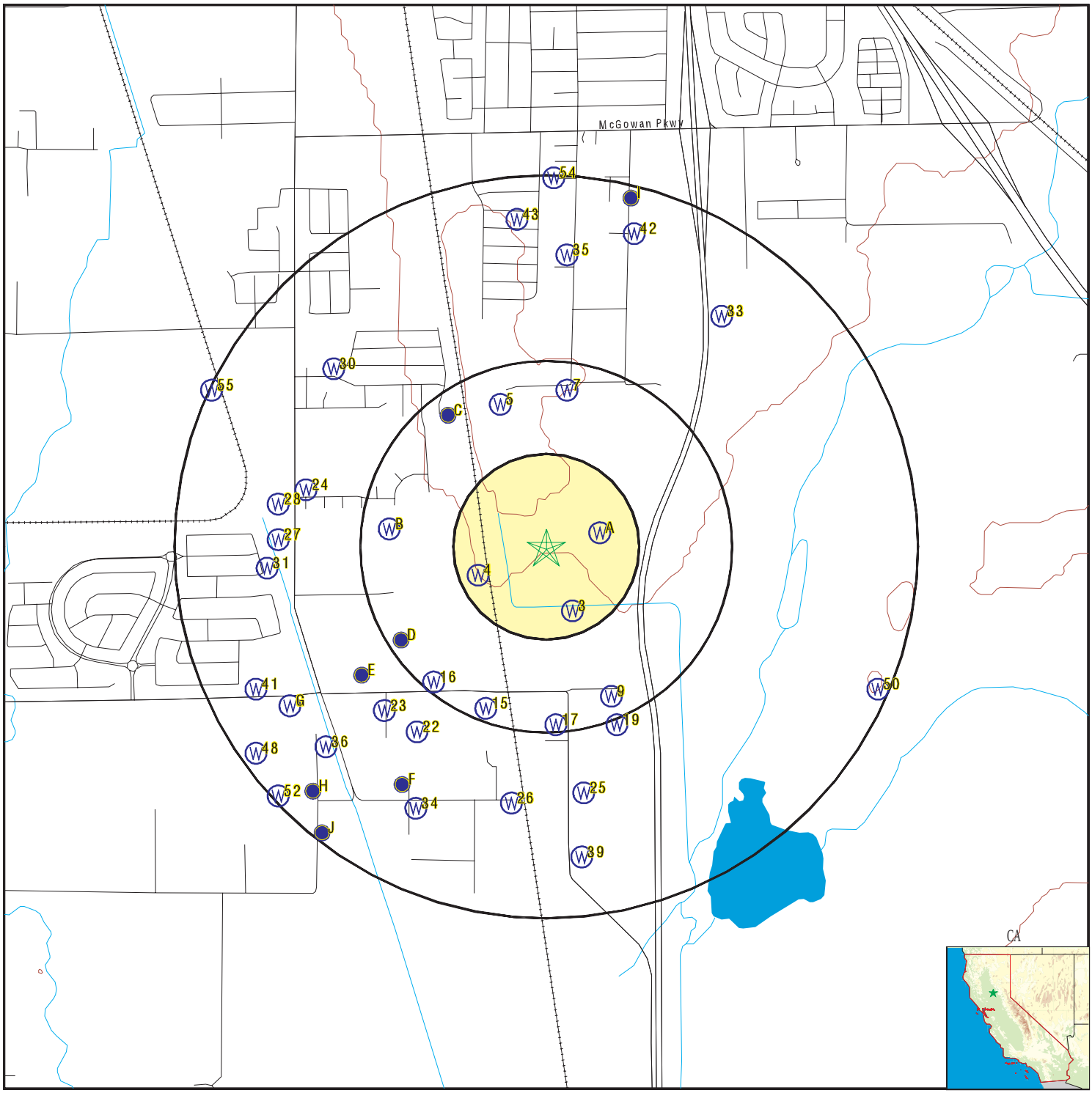
MAP ID	WELL ID	LOCATION FROM TP
A1	CADPR0000003020	0 - 1/8 Mile ENE
A2	CADPR0000005126	1/8 - 1/4 Mile ENE
5	12621	1/4 - 1/2 Mile NNW
C10	CAUSGSN00002228	1/4 - 1/2 Mile NW
C11	CAUSGS000001377	1/4 - 1/2 Mile NW
C12	CADDW2000017792	1/4 - 1/2 Mile NW
D13	CADWR0000034625	1/4 - 1/2 Mile WSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
15	CAGAMA000001127	1/4 - 1/2 Mile SSW
E20	CAUSGSN00007973	1/2 - 1 Mile SW
23	11953	1/2 - 1 Mile SW
25	CADDW2000004459	1/2 - 1 Mile South
F29	CAGAMA000001123	1/2 - 1 Mile SSW
33	CADDW2000013961	1/2 - 1 Mile NE
34	CAGAMA000000687	1/2 - 1 Mile SSW
36	CAGAMA000001131	1/2 - 1 Mile SW
G37	CADDW2000016515	1/2 - 1 Mile WSW
G38	CAPFAS000000399	1/2 - 1 Mile WSW
39	CADWR9000041316	1/2 - 1 Mile South
H40	CAGAMA000000283	1/2 - 1 Mile SW
42	11951	1/2 - 1 Mile NNE
H45	CADWR0000006064	1/2 - 1 Mile SW
H46	CAUSGSN00006222	1/2 - 1 Mile SW
I51	11950	1/2 - 1 Mile NNE
J53	CAGAMA000000966	1/2 - 1 Mile SW
54	CADPR0000001677	1/2 - 1 Mile North

PHYSICAL SETTING SOURCE MAP - 7856384.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	OPUD 30-Acre Parcel	CLIENT:	Padre Associates, Inc
ADDRESS:	Located SE of The Olivehurst WWTP Olivehurst CA 95961	CONTACT:	Alan Klein
		INQUIRY #:	7856384.2s
LAT/LONG:	39.061006 / 121.548779	DATE:	December 24, 2024 1:21 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
ENE
0 - 1/8 Mile
Higher

CA WELLS **CADPR0000003020**

Well ID:	96295	Well Type:	UNK
Source:	Department of Pesticide Regulation		
Other Name:	96295	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DPR&samp_date=&global_id=&assigned_name=96295&store_num=		
GeoTracker Data:	Not Reported		

A2
ENE
1/8 - 1/4 Mile
Higher

CA WELLS **CADPR0000005126**

Well ID:	94682	Well Type:	UNK
Source:	Department of Pesticide Regulation		
Other Name:	94682	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DPR&samp_date=&global_id=&assigned_name=94682&store_num=		
GeoTracker Data:	Not Reported		

3
SSE
1/8 - 1/4 Mile
Lower

FED USGS **USGS40000191409**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17R001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

4
WSW
1/8 - 1/4 Mile
Lower

FED USGS **USGS40000191417**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17K001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported

Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

5
NNW
1/4 - 1/2 Mile
Lower

CA WELLS **12621**

Seq:	12621	Prim sta c:	15N/04E-17C02 M
Frds no:	5810003009	County:	58
District:	02	User id:	BUG
System no:	5810003	Water type:	G
Source nam:	WELL 27	Station ty:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Latitude:	390400.0	Longitude:	1213300.0
Precision:	4	Status:	AU
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	5810003	System nam:	Olivehurst Pud
Hqname:	Not Reported	Address:	P.O. BOX 678
City:	Olivehurst	State:	CA
Zip:	95961	Zip ext:	Not Reported
Pop serv:	9738	Connection:	2873
Area serve:	OLIVEHURST		

B6
West
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000191423**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17L001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

7
North
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000191470**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17B001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		

Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

B8
West **FED USGS** **USGS40000191432**
1/4 - 1/2 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17L002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

9
SSE **FED USGS** **USGS40000191369**
1/4 - 1/2 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20A001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

C10
NW **CA WELLS** **CAUSGSN00002228**
1/4 - 1/2 Mile
Higher

Well ID:	USGS-390358121331001	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-390358121331001	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-390358121331001&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C11
NW
1/4 - 1/2 Mile
Higher

CA WELLS **CAUSGS000001377**

GAMA:

Well ID:	ESAC-10	Well Type:	MUNICIPAL
Source:	United States Geological Survey		
Other Names:	ESAC-10	GAMA Pfas testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGS&samp_date=&global_id=&assigned_name=ESAC-10&store_num=		
GeoTracker Data:	Not Reported		

C12
NW
1/4 - 1/2 Mile
Higher

CA WELLS **CADDW2000017792**

GAMA:

Well ID:	CA5810003_009_009	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	5810003-009
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA5810003_009_009&store_num=		
GeoTracker Data:	Not Reported		

D13
WSW
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR0000034625**

Well ID:	14N04E17N001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	14N04E17N001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=14N04E17N001M&store_num=		
GeoTracker Data:	Not Reported		

C14
NW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000191467**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17G001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19621201	Well Depth:	316
Well Depth Units:	ft	Well Hole Depth:	316
Well Hole Depth Units:	ft		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

15
SSW
1/4 - 1/2 Mile
Lower

CA WELLS **CAGAMA000001127**

Well ID:	YUB 316	Well Type:	DOMESTIC
Source:	Groundwater Ambient Monitoring and Assessment Program		
Other Name:	Plumas Arboga Road	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=YUBA&samp_date=&global_id=&assigned_name=YUB 316&store_num=		
GeoTracker Data:	Not Reported		

16
SW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000191374**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17P002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

17
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000191358**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20B001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

D18
SW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000191387**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17P003M	Type:	Well

Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

19
SSE **FED USGS** **USGS40000191357**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20A002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

E20
SW **CA WELLS** **CAUSGSN00007973**
1/2 - 1 Mile
Lower

Well ID:	USGS-390322121332501	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-390322121332501	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-390322121332501&store_num=		
GeoTracker Data:	Not Reported		

E21
SW **FED USGS** **USGS40000191376**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17N001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19651004	Well Depth:	140
Well Depth Units:	ft	Well Hole Depth:	140
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1965-10-04
Feet below surface:	60.00	Feet to sea level:	Not Reported
Note:	Not Reported		

22
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191354**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20C001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

23
SW
1/2 - 1 Mile
Lower

CA WELLS **11953**

Seq:	11953	Prim sta c:	14N/04E-20F01 M
Frds no:	5800846001	County:	58
District:	88	User id:	58C
System no:	5800846	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	390317.0	Longitude:	1213321.0
Precision:	3	Status:	AR
Comment 1:	MARYSVILLE	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	5800846	System nam:	Arboga Elementary School
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported
Pop serv:	0	Connection:	0
Area serve:	Not Reported		

24
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191445**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17E001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported

Construction Date:	19740615	Well Depth:	125
Well Depth Units:	ft	Well Hole Depth:	126
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1974-06-15
Feet below surface:	55.00	Feet to sea level:	Not Reported
Note:	Not Reported		

25
South
1/2 - 1 Mile
Lower

CA WELLS **CADDW2000004459**

GAMA:

Well ID:	CA5800913_002_002	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	5800913-002
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA5800913_002_002&store_num=		
GeoTracker Data:	Not Reported		

26
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000191335**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20G001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19660730	Well Depth:	145
Well Depth Units:	ft	Well Hole Depth:	145
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1966-07-30
Feet below surface:	60.00	Feet to sea level:	Not Reported
Note:	Not Reported		

27
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000191424**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E18J001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported

Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

28
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000191440**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E18J002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

F29
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAGAMA000001123**

Well ID:	YUB 317	Well Type:	DOMESTIC
Source:	Groundwater Ambient Monitoring and Assessment Program		
Other Name:	4th Street	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=YUBA&samp_date=&global_id=&assigned_name=YUB 317&store_num=		
GeoTracker Data:	Not Reported		

30
NW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191479**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E17D003M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

31
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000191419**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E18J003M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

F32
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191343**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20F001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19740621	Well Depth:	137
Well Depth Units:	ft	Well Hole Depth:	137
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1974-06-21
Feet below surface:	55.00	Feet to sea level:	Not Reported
Note:	Not Reported		

33
NE
1/2 - 1 Mile
Higher

CA WELLS **CADDW2000013961**

GAMA:

Well ID:	CA5800567_001_001	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	5800567-001
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA5800567_001_001&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

34
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAGAMA000000687**

Well ID:	YUB 202	Well Type:	DOMESTIC
Source:	Groundwater Ambient Monitoring and Assessment Program		
Other Name:	Broadway Road	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=YUBA&samp_date=&global_id=&assigned_name=YUB 202&store_num=		
GeoTracker Data:	Not Reported		

35
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000191523**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E08Q001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19690507	Well Depth:	170
Well Depth Units:	ft	Well Hole Depth:	170
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1969-05-07
Feet below surface:	68.00	Feet to sea level:	Not Reported
Note:	Not Reported		

36
SW
1/2 - 1 Mile
Lower

CA WELLS **CAGAMA000001131**

Well ID:	YUB 201	Well Type:	DOMESTIC
Source:	Groundwater Ambient Monitoring and Assessment Program		
Other Name:	Warehouse Road	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=YUBA&samp_date=&global_id=&assigned_name=YUB 201&store_num=		
GeoTracker Data:	Not Reported		

G37
WSW
1/2 - 1 Mile
Lower

CA WELLS **CADDW2000016515**

GAMA:

Well ID:	CA5810003_018_018	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	5810003-018

GAMA Pfas testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA5810003_018_018&store_num=
GeoTracker Data: Not Reported

G38
WSW **CA WELLS** **CAPFAS000000399**
1/2 - 1 Mile
Lower

Well ID:	5810003-018	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 29	GAMA PFAS Testing:	Yes

Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5810003-018&store_num=
GeoTracker Data: Not Reported

39
South **CA WELLS** **CADWR9000041316**
1/2 - 1 Mile
Lower

State Well #:	14N04E20H001M	Station ID:	32329
Well Name:	14N04E20H001M	Basin Name:	South Yuba
Well Use:	Unknown	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

H40
SW **CA WELLS** **CAGAMA000000283**
1/2 - 1 Mile
Lower

Well ID:	YUB 200	Well Type:	DOMESTIC
Source:	Groundwater Ambient Monitoring and Assessment Program		
Other Name:	Warehouse Road	GAMA PFAS Testing:	Not Reported

Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=YUBA&samp_date=&global_id=&assigned_name=YUB 200&store_num=
GeoTracker Data: Not Reported

41
WSW **FED USGS** **USGS40000191372**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E18R001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	120
Well Depth Units:	ft	Well Hole Depth:	350
Well Hole Depth Units:	ft		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

42
NNE
1/2 - 1 Mile
Higher | **CA WELLS** | **11951**

Seq:	11951	Prim sta c:	14N/04E-08R01 M
Frds no:	5800878001	County:	58
District:	88	User id:	58C
System no:	5800878	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	390424.0	Longitude:	1213236.0
Precision:	3	Status:	AR
Comment 1:	4102 - 4110 GEORGE AVENUE MARYSVILLE		
Comment 2:	Not Reported	Comment 3:	Not Reported
Comment 4:	Not Reported	Comment 5:	Not Reported
Comment 6:	Not Reported	Comment 7:	Not Reported
System no:	5800878	System nam:	George Avenue Apartments
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported
Pop serv:	0	Connection:	0
Area serve:	Not Reported		
Sample date:	18-AUG-17	Finding:	9.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	01-MAR-17	Finding:	9.97
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	04-MAY-16	Finding:	1.54
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	06-MAY-15	Finding:	5.93
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	06-MAY-15	Finding:	60.
Chemical:	NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	06-MAY-15	Finding:	1400.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	07-MAY-14	Finding:	4.96
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	02-MAY-12	Finding:	130.
Chemical:	NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	02-MAY-12	Finding:	500.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	07-MAR-12	Finding:	9.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	01-FEB-12	Finding:	277.
Chemical:	MANGANESE	Report units:	UG/L
Dlr:	20.		

43
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000191535**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E08K002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

H44
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191338**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20D002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19610219	Well Depth:	125
Well Depth Units:	ft	Well Hole Depth:	125
Well Hole Depth Units:	ft		

H45
SW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000006064**

Well ID:	14N04E20D002M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	14N04E20D002M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=14N04E20D002M&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

H46
SW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00006222**

Well ID:	USGS-390305121333401	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-390305121333401	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-390305121333401&store_num=		
GeoTracker Data:	Not Reported		

I47
NNE
1/2 - 1 Mile
Higher

FED USGS **USGS40000191542**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E08J001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19740523	Well Depth:	145
Well Depth Units:	ft	Well Hole Depth:	145
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1974-05-23
Feet below surface:	60.00	Feet to sea level:	Not Reported
Note:	Not Reported		

48
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191352**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E19A001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J49
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191325**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E20E003M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

50
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000191371**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E21B001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

I51
NNE
1/2 - 1 Mile
Higher

CA WELLS **11950**

Seq:	11950	Prim sta c:	14N/04E-08J02 M
Frds no:	5800567001	County:	58
District:	88	User id:	58C
System no:	5800567	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	390430.0	Longitude:	1213237.0
Precision:	3	Status:	AR
Comment 1:	MARYSVILLE	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	5800567	System nam:	Yuba Mobile Home Park
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported
Pop serv:	0	Connection:	0

Area serve: Not Reported

52
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191339**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E19H002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

J53
SW
1/2 - 1 Mile
Lower

CA WELLS **CAGAMA000000966**

Well ID:	YUB 312	Well Type:	DOMESTIC
Source:	Groundwater Ambient Monitoring and Assessment Program		
Other Name:	Broadway Road	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=YUBA&samp_date=&global_id=&assigned_name=YUB 312&store_num=		
GeoTracker Data:	Not Reported		

54
North
1/2 - 1 Mile
Higher

CA WELLS **CADPR0000001677**

Well ID:	96288	Well Type:	UNK
Source:	Department of Pesticide Regulation		
Other Name:	96288	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DPR&samp_date=&global_id=&assigned_name=96288&store_num=		
GeoTracker Data:	Not Reported		

55
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000191471**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E18A001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for YUBA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for YUBA COUNTY, CA

Number of sites tested: 14

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.250 pCi/L	93%	7%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.600 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

Geothermal Wells Listing
Department of Conservation
Telephone: 916-445-9686
Geothermal well means a well constructed to extract or return water to the ground after it has been used for heating or cooling purposes. Geothermal wells in California (except for wells on federal leases which are administered by the Bureau of Land Management) are permitted, drilled, operated, and permanently sealed and closed (plugged and abandoned) under requirements and procedures administered by the Geothermal Section of the Department of Conservations Geologic Energy Management Division (CalGEM, formerly DOGGR).

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX G

QUALIFICATION OF THE ENVIRONMENTAL ASSESSOR

ENVIRONMENTAL ASSESSOR QUALIFICATIONS

The environmental professionals responsible for conducting or reviewing this Phase I ESA and preparing the report include:

Alan J. Klein, R.E.P.A., C.P.E.S.C., QSD/QSP, is a Associate, Senior Environmental Scientist with Padre Associates, Inc. He holds a Bachelor of Arts degree in Environmental Studies and Planning from California State University, Sonoma, 1985. Mr. Klein obtained a Professional Certificate in Hazardous Materials Management from the University of California, Santa Barbara in 1992. Mr. Klein is a Registered Environmental Property Assessor; a Certified Professional in Erosion and Sediment Control; and a State of California Qualified SWPPP Developer and Practitioner. Mr. Klein has over 25 years of professional experience performing Phase I environmental site assessments; soil and groundwater assessments; soil and groundwater remediation projects; preliminary endangerment assessments (PEAs); removal actions; risk assessments; preparation and implementation of Storm Water Pollution Prevention Plans (SWPPPs).

Alan Churchill, P.G., is a Senior Geologist with Padre Associates, Inc. He holds a Bachelor of Science degree in Geology and a Minor Degree in Hydrologic Science from the University of California, Davis, March 1996. Mr. Churchill has 20 years of professional experience performing soil, groundwater, and soil gas investigation/remediation projects, underground storage tanks (USTs) removal projects, well abandonments, and soil/ groundwater modeling (environmental fate transport). His responsibilities include specification of project scope, regulatory agency negotiation and compliance, proposal and workplan preparation, field investigation, documentation, risk assessments, and reporting.

DECLARATION

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional*, as defined in §312.10 of 40 CFR §312. I have specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. Additionally, the subject Phase I ESA has been performed in conformance with the scope and limitations of ASTM Practice E1527-21.

Appendix F
Project Definition Report

Project Definition Report

Document no: 251205152746_fc4d8921
Version: 01

Olivehurst Public Utilities District

Wheatland OPUD Regional Wastewater Transmission and Treatment Facilities Project Phase 1 (Contract No. 3 OPUD Wastewater Treatment Plant Modifications)

January 9, 2025



Project Definition Report

Client Name:	Olivehurst Public Utilities District		
Project Name:	OPUD Wastewater Treatment Plant Modifications		
Document No:	251205152746_fc4d8921	**Project No:**	W8Y08100
Date:	January 9, 2025	**Project Manager:**	Kevin Kennedy

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Executive Summary

Background

This Project Definition Report (PDR) summarizes process design criteria and proposed facility improvements for the Olivehurst Public Utility District (OPUD) Wastewater Treatment Plant Modifications Project (Project). The objectives of the Project are to replace Wastewater Treatment Plant (WWTP) equipment that has exceeded its operational lifespan, expand influent wet weather flow capacity associated with peak daily flow (PDF) condition of 6.8 million gallons per day (mgd) to a PDF condition of 12.6 mgd, and provide solids processing improvements. Flow equalization will be used to attenuate both peak day and peak hour wet weather flow conditions thereby reducing (i.e., equalizing) tertiary treatment flow criteria. The Project will be implemented in a single construction package. OPUD owns and operates the WWTP that discharges treated effluent to the Western Pacific Interceptor Canal under the National Pollutant Discharge Elimination System (NPDES) that is permitted and enforced by the California Regional Water Quality Control Board.

OPUD currently provides wastewater treatment services to the community of Olivehurst and Plumas Lake compliant with waste discharge requirements established in the current NPDES permit (Order R5-2021-0024). OPUD's wastewater services are expanding to accommodate the City of Wheatland (City)and is installing a conveyance system to convey wastewater generated from the City to the OPUD WWTP. Current average dry weather flow (ADWF) is approximately 1.7 mgd and the WWTP's permitted average dry weather flow (ADWF) capacity is 3 mgd. There is sufficient ADWF capacity for the near-term growth within the existing and expanded service area, and City of Wheatland flows; however, current PDF and peak hour wet weather flow conditions are above the existing design capacity and are expected to increase due to growth and City of Wheatland connection which is scheduled to be in operation late December 2028[1].

Influent Flows

The WWTP was last modified during the 2004 expansion project that constructed new headworks, secondary treatment, tertiary filtration, and disinfection systems with an ADWF capacity of 3.0 mgd. Current influent flow conditions are approximately 56% of the ADWF capacity and over 100% of both the estimated peak day and peak hour design flow conditions from 2004. This project will increase the peak flow capacity of the plant while maintaining the ADWF capacity. Table ES-1 summarizes flow conditions for this project in comparison to the current conditions.

Table ES-1. Influent Wastewater Flow Conditions (mgd)

	Average Dry Weather Flow	Peak Month Flow	Peak Day Flow	Peak Hour Flow
2004 Design	3.0	4.6	6.8	9.7
Current	1.7	2.8	7.4	9.8
Proposed Project	3.0	4.8	12.6	16.7

[1] This timeline is subject to change

Proposed Project

The Project includes improvements to influent screening, grit removal, influent pumping, secondary treatment, tertiary filtration, ultraviolet disinfection, secondary effluent flow equalization, and solids handling. Modifications to ancillary facilities include the SCADA control system, site electrical, yard piping, utility water, and operational buildings. Preliminary site plans are in Appendix A.

Headworks

The existing headworks facility includes influent screening and grit removal system. Influent screening system currently includes a single self-cleaning perforated plate screen, manual bypass screen, and a spare channel for expansion. The Project includes replacement of the existing perforated plate screen, installation of a second perforated plate screen into the existing spare channel, and appurtenances.

Existing grit removal system includes two vortex grit chambers, grit pumping, and grit processing equipment. The Project will replace the grit pumps and grit processing equipment including two cyclones, grit classifier, and appurtenances. Removed grit will discharge into the existing grit dumpster.

Influent Pump Station

The project includes replacing existing pumps within the Influent Pump Station and installation of additional pumps to provide firm capacity associated with the design peak hour flow condition of 16.7 mgd. The existing influent flow meter will be replaced with a new meter to account for limited straight pipe runs that will impact accuracy.

Secondary Treatment

The existing secondary treatment system includes two oxidation ditches, mixed liquor distribution box, and secondary clarification. The project will replace gearboxes within the oxidation ditches' vertical shaft mixers and construct a new 105-ft diameter secondary clarifier. New yard piping will be installed from the existing mixed liquor distribution box to the new clarifier unit.

The project includes a new return activated sludge (RAS) pump and waste activated sludge (WAS) pump. Pumps will be installed at the existing RAS/WAS Pump station constructed during the 2004 expansion project.

Tertiary Filtration

The existing Filter Influent Pump Station includes three submersible pumps installed in a wet well with expansion for two additional pumps. The Project includes an additional fourth pump to provide firm pumping capacity associated with the increased flow conditions. The Project includes modifications to the three existing disc filter units and installation of two additional disc filter units providing a firm equalized flow capacity of 11.5 mgd. Secondary effluent flow exceeding 11.5 mgd will be diverted to the existing Flow Equalization Basin to attenuate peak flow conditions.

Ultraviolet Disinfection

The existing ultraviolet (UV) disinfection system will be replaced with a new UV disinfection system. The Project includes removing the existing 20 year old UV equipment and overhead crane system and installing new UV equipment in three existing channels with an equalized flow capacity of 11.5 mgd. A shade canopy will be added over the UV system.

Solids Handling

The Project includes increasing aerobic storage capacity by installing surface floating aerators in the existing solids storage pond and constructing a new basin with surface floating aerators. Two additional drying beds will be constructed adjacent to existing drying beds. Sludge transfer pumps and associated appurtenances will be installed for operation of solids handling improvements.

Flow Equalization and Emergency Storage

The existing concrete lined Flow Equalization Basin (FEB) attenuates peak flows before tertiary filtration with an equalization volume of approximately 1 million gallons (MG). The project includes installation of two low head high flow pumps within the FEB that discharges to the Emergency Storage Basin (ESB) during sustained peak flow conditions.

Support Systems

The Project includes upgrades and/or expansion of the plant electrical system, control system, operations building, maintenance building, and utility water system.

Preliminary Cost Estimate

Table E-2 presents a preliminary Project construction cost estimate.

Table E-2. Estimate Summary

Description	$ Amount
Site Work	870,000
Yard Piping	3,300,000
Headworks	3,050,000
Influent Pump Station	3,030,000
Oxidation Ditch	860,000
Secondary Clarifier	6,810,000
RAS/WAS Pump Station	340,000
Filter Influent Pump Station	770,000
Disk Filters	4,300,000
UV Disinfection	6,890,000
Utility Water	410,000
Solids Handling	4,710,000
FEB Pump Station	890,000
Building Renovation	610,000
Maintenance Building	1,490,000
SCADA Control	660,000
Total	38,990,000

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Acronyms and Abbreviations

°C	degree(s) Celsius
°F	degree(s) Fahrenheit
ACI	American Concrete Institute
ADM	Aluminum Design Manual
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	ASTM International
AWG	American wire gauge
BOD_5	5-day biological oxygen demand
CBC	California Building Code
CPT	cone penetrometer test
DO	dissolved oxygen
E+H	Endress and Hauser AG
FEB	flow equalization basin
gpm	gallon(s) per minute
H_2S	hydrogen sulfide
HMI	human-machine interface
HOA	hand-off-auto
hp	horsepower
HVAC	heating, ventilation, and air conditioning
IACS	industrial automation and control systems
ICEA	Insulated Cable Engineers Association
ISA	Instrument Society of America
lb/d	pound(s) per day
LCP	local control panel
mgd	million gallon(s) per
MLSS	mixed liquor suspended solids
NAVD88	North American Vertical Datum of 1988

NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
OPUD	Olivehurst Public Utility District
pcf	pound(s) per cubic foot
PDR	Project Definition report
psf	pound(s) per square foot
psi	pound(s) per square inch
PLC	programmable logic controllers
PVC	polyvinyl chloride
RAS	return activated sludge
Regional Board	Central Valley Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SRT	solids retention time
THW	thermoplastic heat and water-resistant
UL	Underwriters Laboratory
VFD	variable frequence drive
WAS	waste activated sludge
WWTP	Wastewater Treatment Plant

1. Introduction

This Project Definition Report (PDR) summarizes process design criteria and proposed facility improvements for the Olivehurst Public Utility District (OPUD) Wastewater Treatment Plant Modifications Project (Project). The objectives of the Project are to replace Wastewater Treatment Plant (WWTP) equipment that has exceeded its operational lifespan, expand influent wet weather flow capacity associated with peak day flow (PDF) condition of 6.8 million gallons per day (mgd) to a PDF condition of 12.6 mgd, and provide solids processing improvements. Flow equalization will be used to attenuate both PDF and peak hour wet weather flow (PHWWF) conditions thereby reducing (i.e., equalizing) tertiary treatment flow criteria. The WWTP modification project will be implemented in a single construction package. OPUD owns and operates the WWTP that discharges treated effluent to the Western Pacific Interceptor Canal under the National Pollutant Discharge Elimination System (NPDES) that is permitted and enforced by the California Regional Water Quality Control Board.

OPUD currently provides wastewater treatment services to the community of Olivehurst and Plumas Lake compliant with waste discharge requirements established in the current NPDES permit (Order R5-2021-0024). OPUD's wastewater services are expanding by installing a new conveyance system to accommodate the City of Wheatland. Current average dry weather flow (ADWF) is approximately 1.7 mgd and the WWTP's permitted ADWF capacity is 3 mgd. Additional ADWF capacity is not included in this project as there is sufficient capacity for the near-term growth within the existing and expanded service area; however, peak wet weather flows are expected to increase as a result of sanitary sewer overflow mitigation work.

1.1 Existing Facilities

Existing treatment processes are presented as liquid stream and solids handling unit processes. The liquids stream unit processes include influent screening, grit removal, influent pump station, secondary treatment using oxidation ditches and clarifiers, secondary flow equalization, tertiary filtration using disc filters, ultraviolet (UV) disinfection, and post aeration prior to discharge. The majority of the liquid stream processes were implemented from the 2004 expansion project. Solids handling of waste activated sludge includes aerobic digestion using a lagoon, sludge storage, and sludge drying beds. Lagoons used for digestion and solids storage were constructed in 1975 and the sludge drying beds were constructed as part of the expansion project completed in 2005. Figure 1-1 shows a process flow diagram of the existing treatment system.

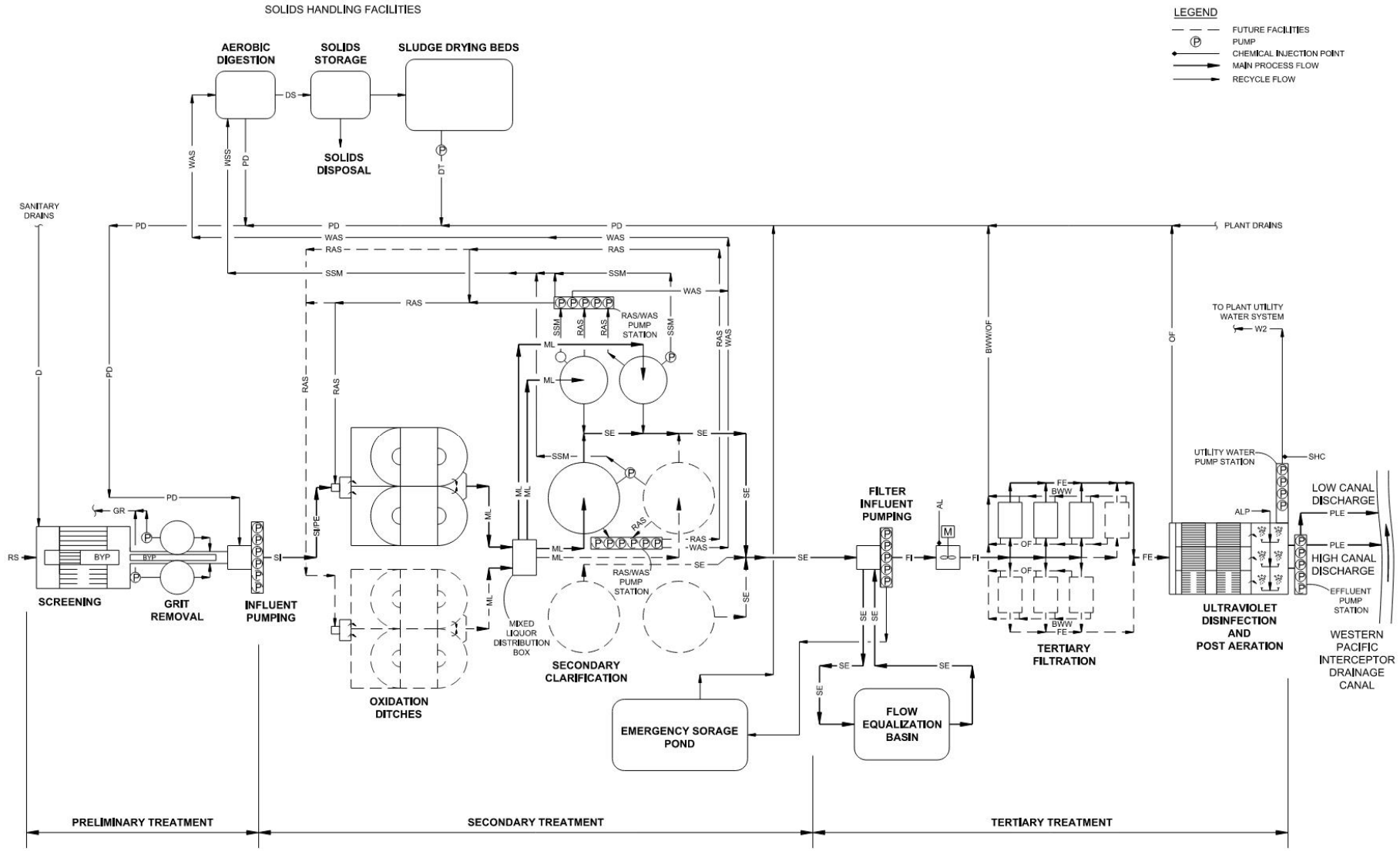


Figure 1-1. Existing Process Flow Diagram

1.2 Effluent Discharge Requirements

The WWTP discharges treated effluent to the Western Pacific Interceptor Canal under the NPDES Permit (CA0077836, Order No. R5-2021-0024) administered by California Regional Water Quality Control Board – Central Valley Region. The current permit became effective on April 22, 2021 and will expire on May 31, 2026. Current effluent limitations are summarized in Table 1-1.

Table 1-1. Effluent Limits

Parameter	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand (BOD), 5-day @ 20°C	10 mg/L	15 mg/L	--
Total Suspended Solids (TSS)	10 mg/L	15 mg/L	--
Ammonia (total as N)	1.6 mg/L	3.6 mg/L	--
Nitrate and Nitrite (total as N)	10 mg/L	19 mg/L	--
Copper (total recoverable)	11 µg/L	--	17 µg/L

mg/L = milligrams per liter

µg/L = microgram per liter

The effluent total coliform limit shall not exceed the following:

- 2.2 most probable number per 100 milliliters (MPN/100 mL) as a 7-day median
- 23 MPN/100mL more than once in any 30day period
- 240 MPN/100mL at any time

Total coliform 7-day median limitations were exceeded on more than 20 occasions between 2021 and 2024. This Project aims to improve compliance reliability of total coliform limits through modifications of the UV disinfection system and upstream processes. The existing 20-year old UV equipment will be replaced entirely and disinfection capacity will be increased. Secondary effluent quality will be improved by increasing the clarifier capacity to mitigate solids carryover to the filtration system that increases backwash frequency and reduces throughput. Additionally, the filtration capacity will be increased with two additional filter units and new panels will be installed in the existing three filter units to mitigate particles in the UV channels that can hinder disinfection performance.

1.3 Design Flows and Loadings

The average dry weather design flows were developed using historical data from January 2019 through August 2025 and an estimated annual growth of 4% for the Olivehurst and Wheatland service areas. Current ADWF is 1.7 mgd, approximately 56% of the 3.0 mgd plant capacity based on the expansion project completed in 2005. Plant data from 2024 shows that current PDF and PHWWF conditions have exceeded the 2004 expansion design criteria indicating significant wet weather contributions to the collection system. One of the drivers of this project is to correct and increase the peak wet weather capacity of the plant while maintaining the permitted ADWF capacity to the current value of 3.0 mgd. Table 1-2 shows the current and design flows for the project with the 2005 expansion project capacity for comparison.

Table 1-2. Influent Flow Conditions (mgd)

Flow Condition	Current Conditions	Existing Capacity (2005 Expansion)	Design Conditions
Average Daily Dry Weather Flow (ADWF)	1.7	3.0	3.0[a]
Average Annual Daily Flow (AADF)	1.9	--	3.4[b]
Average Daily Max Month Flow (ADMMF)	2.8	4.6	4.8[b]
Peak Daily Flow (PDF)	7.4	6.8	12.6
Peak Hour Wet Weather Flow (PHWWF)	9.8	9.7	16.7

[a] ADWF projection includes 2.5 mgd from OPUD and 0.5 mgd from Wheatland.

[b] AADF and ADMMF projected from existing peaking factors of 1.13 and 1.6, respectively.

Influent mass loadings were developed using total suspended solids (TSS) and biochemical oxygen demand (BOD) concentration data from January 2019 through December2024. TSS and BOD concentrations and mass loadings are shown in Table 1-3. Influent nitrogen fractions are not included as they are not analyzed and recorded on a frequent basis. Total kjeldahl nitrogen concentrations are estimated to be 38 mg/L, on average daily basis.

Table 1-3. TSS and BOD Loads

Flow Condition (Year)	ADWF (mgd)	ADWF Influent BOD (mg/L)	ADWF Influent BOD Load (ppd)	ADWF Influent TSS (mg/L)	ADWF Influent TSS Load (ppd)
Historic (2019-2024)	1.46	253	3,077	222	2,699
Current Conditions (2024)	1.70	233	3,292	218	3,090
Design Condition	3.00	253	6,336	222	5,562

ppd = pounds per day

1.4 Proposed Project

The proposed project will increase the peak wet weather capacity of the facility, replace equipment that has exceeded its operational lifespan, and improve solids handling operations by increasing capacity. The Project will include the following elements, constructed in a single package:

- New mechanical influent screenings systems to existing channels, two in total
- Replace two existing grit pumps and motors
- Replace grit handling equipment at grade, in-kind
- Replace all pumps at influent pump station (IPS) and add additional for design flow condition
- Replace the influent flow meter at the IPS
- Addition of one 105-foot diameter secondary clarifier
- Addition of one return activated sludge (RAS) and one waste activated sludge (WAS) pump at the existing RAS/WAS Pump Station facility
- Addition of one new pump at the filter influent pump station (FIPS)
- Addition of two new disc filter units and replacement of discs at the existing three filter units.
- Replacement of equipment at two UV channels and additional new equipment in third UV channel
- Conversion of solids storage pond into aerobic digester by addition of four new aerators
- Addition of a third aerobic digester
- Addition of a new digested solids transfer pump station
- Addition of two new sludge drying beds
- New equalization pump station comprised of two pumps at the flow equalization basin (FEB)
- Addition of a fourth utility water pump matching existing equipment
- New SCADA control system housed within an existing electrical room
- Site electrical components to energize new equipment
- Renovation of existing Maintenance Building into an expanded operations facility
- New Maintenance Shop located north of existing Oxidation Ditches

The following section presents design criteria and proposed modifications to each component of the WWTP. Figure 1-2 shows the proposed process flow diagram with the modifications emphasized in bold.

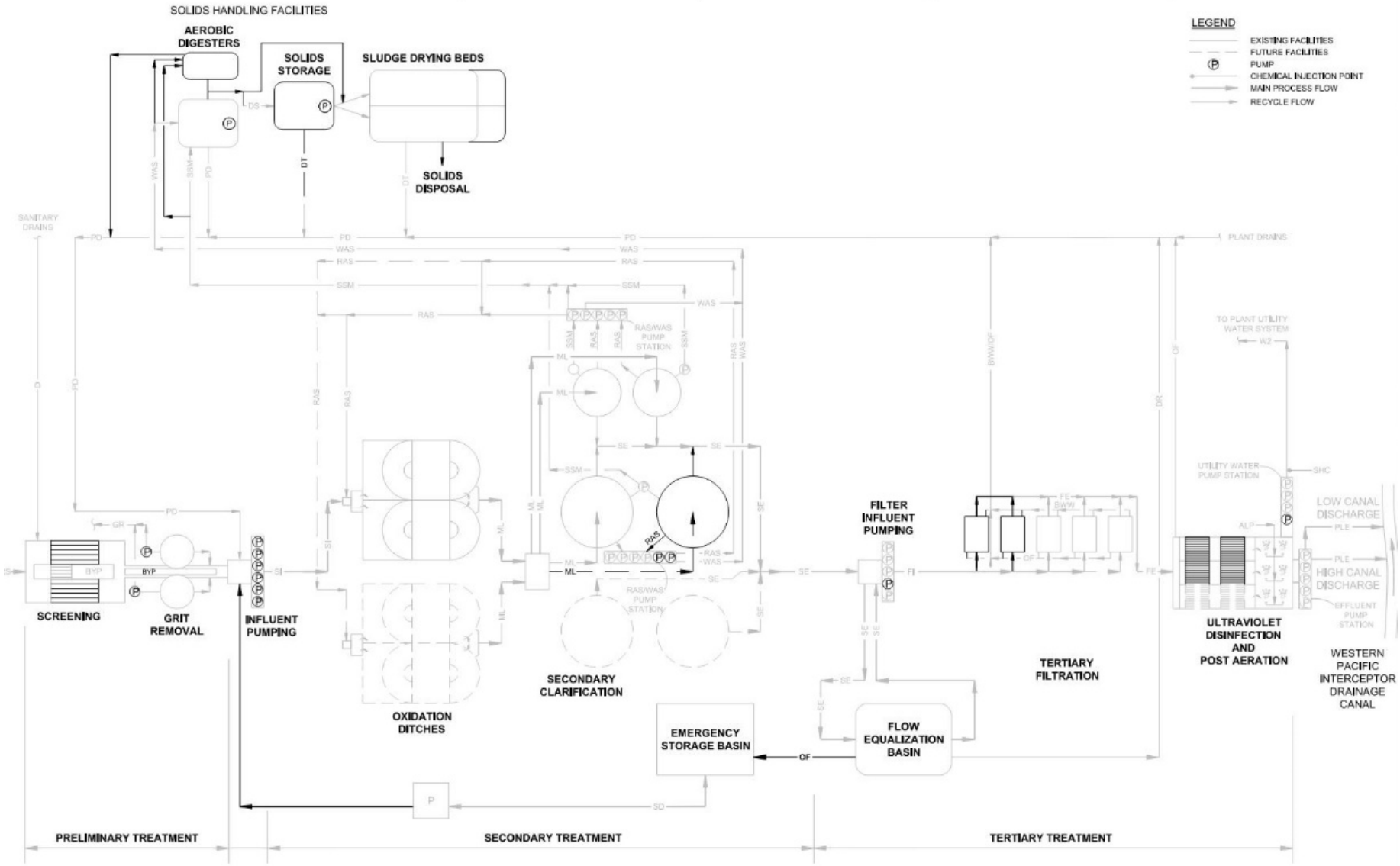


Figure 1-2. Proposed Process Flow Diagram

2. Treatment Facilities

2.1 Headworks

Headworks is located upstream of the influent pump station and includes screening and grit removal. The existing screening system is comprised of single self-cleaning perforated plate screen and one washer compactor. The existing equipment is over 20 years old and due for replacement. Two new screens will be installed within the existing concrete channels discharging to a washer/compactor located on the south side of the headworks facility.

The existing vortex grit removal system includes Vaughan grit pumps using a pinch valve at the bottom of the suction column to close allowing the pump to prime. The pinch valve is made of an elastomer material that degrades from contact with the abrasive grit slurry, thereby reducing the priming capabilities over time. These pumps may be replaced with new units of similar performance and maintenance. Alternatively, it is recommended to replace the existing pumps with self-priming grit pumps and avoid the relatively difficult maintenance of changing the pinch valve within a confined space. Grit slurry is pumped to a 12" Wemco Hydrogritter with dual cyclones that will be replaced in- kind. Table 2-1 outlines design criteria for screening and grit removal.

Table 2-1. Design Criteria of Headworks Equipment

Parameter	Value	Units
Mechanically cleaned screens	2	quantity
Screens capacity, each	12.8	mgd
Screenings washer/compactor	1	quantity
Washer/compactor capacity	177	cft/hr
Grit Pumps	2	quantity
Grit pump capacity, each	250	gpm
Grit classifier capacity	1500	pph

cft/hr = cubic feet per hour

pph = pound per hour

2.1.1 Process Control & Monitoring Approach

The screening system will operate based on head differential from level indicators that measure the water surface elevation upstream and downstream of each screen. When the differential exceeds an ON setpoint, the screen system will initiate a run cycle until the differential decreases below the OFF setpoint. A high upstream level will also initiate a run cycle until the water surface elevation decreases and the differential decreases.

The grit classifier will start to run after either of the grit pumps is in operation. It will stop after a specified time based on the OFF status from the grit pumps.

2.2 Influent Pump Station

The influent pump station (IPS) is comprised of four submersible pumps that conveys influent wastewater, post screening and grit removal, to the existing oxidation ditches. The existing pumps include two 20 HP motors pumping 1,600 gpm, and two 60 HP motors pumping 4,600 GPM. These pumps have a combined firm capacity (total capacity with largest unit offline) of 11.2 mgd. All existing pumps will be replaced and two additional pumps will be installed within the existing pump station. No changes to the existing structural infrastructure are proposed. Proposed plan configuration is shown in Figure 2-1.

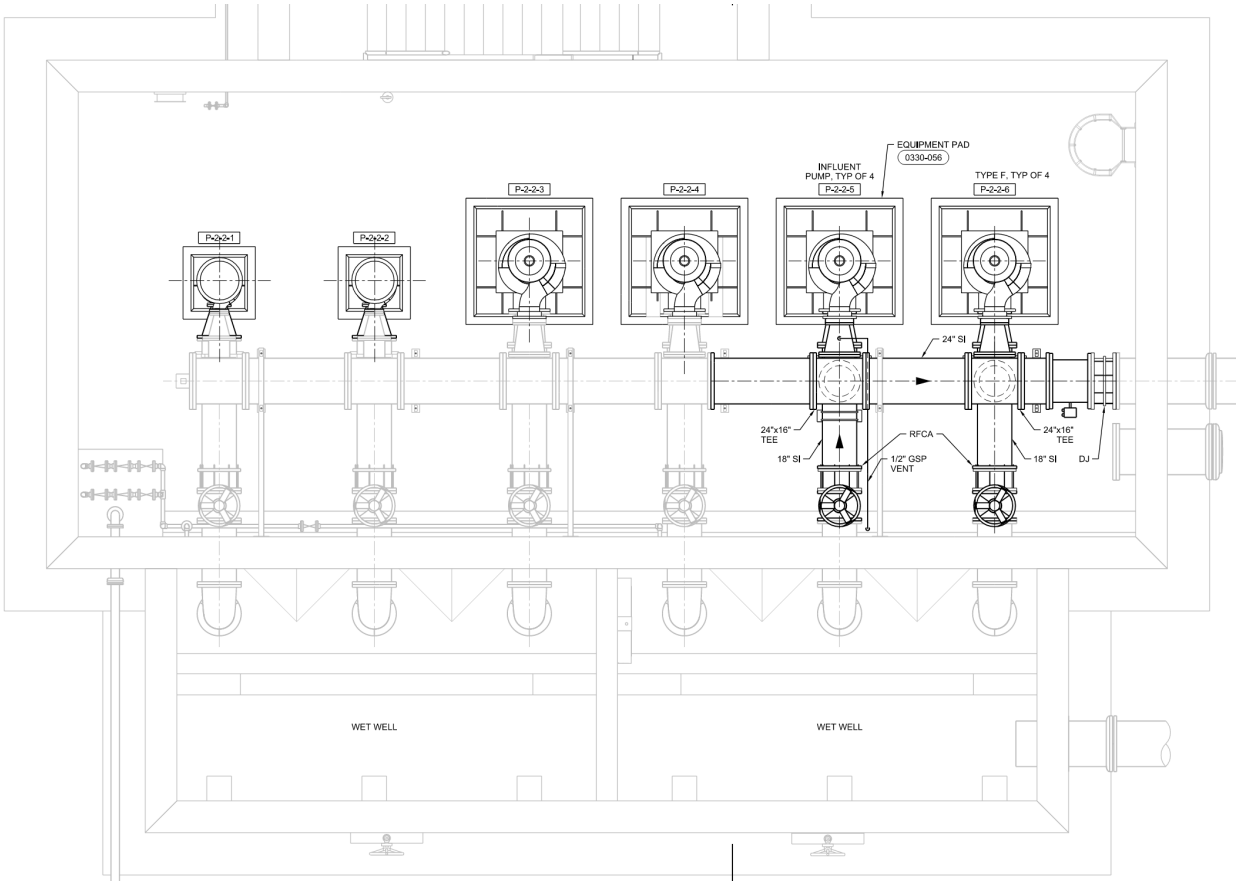


Figure 2-1. Proposed Influent Pump Station Improvements

2.2.1 Design Criteria

The Project includes installation of six submersible pumps capable of achieving projected PHWWF conditions of 16.7 mgd and current minimum flow conditions of approximately 1 mgd. Individual pump capacity will be similar to existing, comprised of four large capacity pumps and two small capacity pumps providing redundancy at both average flow and wet weather flow conditions. Improvements to the influent pumps are shown in Table 2-2.

Table 2-2. Design Criteria Influent Pump Station

Parameter	Value	Units
Number of pumps	6 (5 Duty, 1 Standby)	-
Pump type	Submersible Pumps	-
Pump Capacity	2 @ 1,600 and 4 @ 4,600	gpm
TDH	35 max, 20 min, 25 average	ft
Motor size	two @ 20, four @ 60	hp
Firm Capacity	23.1	mgd

hp = horsepower
TDH = total dynamic head

2.2.2 Process Control & Monitoring Approach

The pumps currently operate based on a level sensor located in the influent wet well which will be maintained in this project. The pumps will turn off if the low-level sensor is activated and will turn on and increase speed as required to maintain a desired level (i.e., setpoint) in the wet well. The pump flowrate and resulting pump head for minimum flow, ADWF, PDF, and PHWWF are summarized in Table 2-3.

Table 2-3. Influent Pump Station Flow Criteria

Pump Size	Flowrate (gpm)	Pump Head (ft)
Min Flow – 1 mgd		
Small Pump 1	695.5	22.9
ADWF – 3 mgd		
Small Pump 1	1,040	23.3
Small Pump 2	1,040	23.5
PDF – 13 mgd		
Large Pump 1	4,515	29.58
Large Pump 2	4,515	27.51
PHWWF – 17 mgd		
Large Pump 1	3,935	31.7
Large Pump 2	3,935	30.1
Large Pump 3	3,935	29.6

2.3 Secondary Treatment

Secondary treatment is provided by an activated sludge process using oxidation ditches and secondary clarification. The major modification to secondary treatment is the addition of a 105-ft diameter secondary clarifier and associated yard piping for mixed liquor, RAS, and WAS flow streams. Other modifications include replacing all four gearboxes at existing vertical shaft aerators within the oxidation ditches and installing additional RAS and WAS pumps to service the new secondary clarifier. Gear boxes for the vertical shaft mixers will be replaced in-kind and detailed in the contract documents.

2.3.1 Secondary Clarifier

A secondary clarifier will be constructed as part of the Project to operate in parallel with the existing clarifier that was installed in 2005. This additional clarifier unit provides redundancy during average flow conditions and improves solids separation during high flow conditions to mitigate solids carryover to the filtration system, which has been problematic from a regulatory compliance standpoint in the past with respect to downstream tertiary treatment performance. The proposed clarifier will be installed with a spiral blade and sludge ring instead of the existing clarifier's multiple riser pipe sludge removal system for enhanced sludge concentration for 1:12 slopes. Design criteria for the secondary clarifier are shown in Tabel 2-4.

Table 2-4. Design Criteria for Secondary Clarifiers

Parameter	Existing	New
Number of clarifiers	1	1
Diameter of each clarifier	105-ft	105-ft
Slope (vert:horiz)	1:12	1:12
Type	Multiple Riser Pipe	Spiral Blade
Sidewater depth	14 ft	14 ft
Overflow rate, peak day flow	728 gpd/ft2	
Overflow rate, peak hour flow	964 gpd/ft2	
Solids Loading Rate, peak day flow	25 lbs/day/ft^2	
Solids Loading rate, peak hour flow	30 lbs/day/ft^2	

gpd/ft^2 = gallons per day per square foot
lbs/day/ft^2 = pounds per day per square foot

2.3.2 RAS/WAS Pumping

The existing RAS/WAS pump station will be expanded to increase the overall underflow capacity of the clarifiers. Existing RAS pumps are designed to be flow paced based on the influent flow at a rate of 50% to 100% of the maximum month flow. The Project includes the installation of one additional RAS pump, increasing the available capacity and providing redundancy at the peak month flow condition. Each secondary clarifier will have a dedicated RAS pump and a swing pump that can serve either secondary clarifier. One additional WAS pump will be installed adjacent to the two existing pumps. All WAS pumps will be connected to the suction header of the RAS pumps and will discharge to one of the aerobic digesters. Design criteria for the RAS and WAS pumps are provided in Table 2-5 and Table 2-6.

Table 2-5. RAS Pump Design Criteria

Parameter	Existing	New
Number of pumps	2	1
Pump type	Horizontal Self-Priming Chopper Pumps	Horizontal Self-Priming Chopper Pumps -
Pump Capacity	1,800 gpm	1,800 gpm
TDH	30 ft	37 ft
Motor size	20 hp	30 hp

Table 2-6. WAS Pump Design Criteria

Parameter	Existing	New
Number of pumps	2	1
Pump type	Horizontal End Centrifugal Non-Clog	Horizontal End Centrifugal Non-Clog
Pump Capacity	200 gpm	150 gpm
TDH	13 ft	13 ft
Motor size	5 hp	5 hp

2.4 Tertiary Filtration

The Project will increase the filtration capacity to 11.5 mgd by constructing two new filter units, replacing the discs in the three existing filter units, and installing one additional filter influent pump. Existing flow equalization prior to the filtration system will be maintained to attenuate secondary effluent peak flow conditions. Secondary effluent is conveyed to the Filter Influent Pump Station (FIPS) wet well and pumped to the cloth-media disk filters. Flow that exceeds the available filtration capacity is diverted, by gravity, to the lined Flow Equalization Basin (FEB) located south of the filter facility.

In addition to the two new filtration units, the project includes an access platform, buried and exposed piping, flow control valves and flow measurement to split flows to either filter train, modifications for compliance sampling and associated appurtenances. Criteria for the filter influent pump station are shown in Table 2-7 and design criteria for filter modifications is shown in Table 2-8.

The flow meter located on the common discharge pipe from the filter influent pumps is utilized for measuring total flows and determining the number of filters that will be in operation. Typically, one filter is in operation while one filter is in backwash mode. During normal operation, the two new larger capacity filters will be operated. A new flow control valve will be added upstream of the three existing filters. This flow control valve will be closed during normal operation. When the flow starts to exceed a flow setpoint (e.g., 7.5 mgd), the flow control valve will be adjusted to allow flow into the three existing filters.

Table 2-7. Design Criteria for Filter Influent Pump Station

Parameter	Existing	New
Pump type	Submersible	Submersible
Number of pumps	3	1
Capacity; each	2,700 gpm	2,700 gpm
Motor size; each	33 hp	35 hp

Table 2-8. Design Criteria for Filtration System

Parameter	Value	Units
Filter type	Cloth-media disk	-
Number of filter units	3 existing + 2 new	quantity
Number of disks per filter unit	12[a] existing units/ 20 new units	quantity
Filtration area per disk	39.2	sft
Hydraulic loading rate		
All units online at ADWF	3.0	gpm/sft
All units online at PDF	3.2	gpm/sft
One unit out of service at ADWF	6.0	gpm/sft
One unit out of service at PDF	6.4	gpm/sft

[a] Existing units contain 11 disks that will be replaced with new disks in addition to a 12th disk.

sft = square feet

gpm = gallons per minute

2.4.1 Filter Influent Pump Station Control

The modified FIPS facility consists of four pumps (3 existing and 1 new), configured as three duty pumps and one standby, with each pump equipped with an Adjustable Frequency Drive (AFD). The wet well includes one level sensor and one level switch located in the forebay that will remain, and a single flowmeter on the pump discharge header measures the total station flow. OPUD has purchased a new flow meter that will be installed as part of the project to replace the existing meter.

The pump station is designed to limit flow based on downstream conditions to prevent overloading the filters or the UV system. The control system continuously monitors the available capacity of both the filters and the UV system and restricts flow, when necessary so it does not exceed the capacity of either system.

Under normal operating conditions (i.e., non wet-weather flow conditions), incoming flow to the FIPS will remain below the rated capacity of the filters and UV system. Pump speed will be adjusted to maintain a wet well level setpoint, and flow or speed will determine the number of pumps in operation. The station will continue to employ Lead/Lag/Standby controls to balance pump usage and minimize wear.

Abnormal operation occurs under two primary scenarios: high treatment plant flows relative to filter or UV system capacity, or reduced filter or UV system capacity relative to normal plant flows, such as when one or more filters are offline or the UV system has limited capacity. In these cases, the control system will continue to monitor available capacity and limit flow accordingly. Pump speeds will be adjusted to maintain a flow setpoint, allowing the wet well level to rise above its normal setpoint and spill into the emergency overflow basin. The number of pumps running remains the same as in normal operation.

Once abnormal conditions are resolved, the wet well level will return to its setpoint and be maintained. Water collected in the emergency overflow basin will be drained by an existing pump that is outside the scope of this project.

2.5 UV Disinfection

The existing UV system was installed during 2005 construction activities within the original chlorine contact basin. The existing system consists of vertical configuration lamps placed in two channels with two additional channels available for expansion. The Project will demolish existing UV equipment and install UV banks with current lamp technology within three of the existing channels providing treatment up to 11.5 mgd, which is the hydraulic capacity of the UV channels. The third channel will be brought online during wet weather events when flows exceed approximately 7.4 mgd. During average flow conditions (less than 7.4 mgd), only two channels will be online and rotated in lead – lag 1 – lag 2 sequence, with a channel in lead mode for a minimum of 30 days.

In addition to UV equipment, a canopy will be constructed to provide shade and support cable trays to power the equipment. Influent and effluent gates will be installed in the third channel to match existing gates. Criteria for the UV disinfection system is provided in Table 2-9.

Table 2-9. Design Criteria for Expansion of UV System

Parameter	Existing	New
UV Configuration	Open channel; vertical lamp configuration	Open channel; inclined lamp configuration
Number of channels	2	3
Number of banks per channel	12	9 (8 duty; 1 redundant)
Number of modules per bank	40	1
Number of lamps	960	216
Design UV transmittance	55%	60%
Type of level control	Fixed finger weir	Fixed finger weir

2.6 Solids Handling

2.6.1 Existing Process Description

The existing solids process includes an aerated storage pond, a solids storage pond without aeration, and sludge drying beds. Waste activated sludge (WAS) and secondary scum transfer to the existing aerated storage pond and adjacent solids storage pond via existing RAS/WAS and biofroth pump stations. Decant from the ponds flows by gravity to the plant drain and is returned to the headworks. Decant elevation is set by a manually adjusted stop log outlet structure at each pond. Solids are pumped to the sludge drying beds (SDBs) using a mobile diesel pump. The solids drying season is between April and October, on average. Drying solids are periodically turned within the drying beds using a brown bear tracker attachment. Decant from the drying beds is provided by telescoping valves and underdrain system that is conveyed to the plant drain system by the sludge drying bed pump station. At the end of the drying season, dried solids are collected and stored in a drying bed prior to landfill disposal. The design criteria for the existing solids handling process is shown in Table 2-10.

Table 2-10. Existing Solids Process Design Criteria

Facility	Parameter	Value
Aerated Storage Pond (Pond A)	Volume (cft) Number of aerators (hp)	160,000 cubic feet 4 surface aerators (30 hp)
Solids Storage Basin (Pond B)	Volume (cft and gal)	160,000 cubic feet 1.2 million gallons
Solids Transfer Pump	Number of pumps, pump type	1, mobile diesel pump
Sludge Drying Beds	Number of beds, dimensions Total Area	8 beds, 90 ft x 180 ft 129,600 sqft
Sludge Drying Bed Decant Pump Station	Number of pumps, capacity each (hp) Type	1, 250 gpm @ 35 TDH (5 HP) Submersible, Non-clog centrifugal

2.6.2 Design Criteria

This Project includes installing surface aerators to the existing solids storage pond (Aerated Storage Pond 2), constructing a new 1.7 MG aerated storage pond (Aerated Storage Pond 3), constructing a new solids transfer pump station to convey solids between aerated storage ponds, providing a mobile diesel pump to transfer solids to sludge drying beds, and constructing two new sludge drying beds adjacent to the existing drying beds. No modifications are proposed for the existing Aerated Storage Pond 1.

The new solids transfer pump station, consisting of two rotary lobe pumps, will transfer solids from ponds 1 & 2 to the new Aerated Storage Pond 3 or directly to the sludge drying beds. This pump station will be constructed between ponds 1 & 2 in the location of the previously abandoned solids pump station. Solids from Aerated Storage Pond 3 will be conveyed to the sludge drying beds by a mobile diesel pump that can draw solids from multiple points within the pond to mitigate solids accumulation. A basic process flow diagram is show in Figure 2-3.

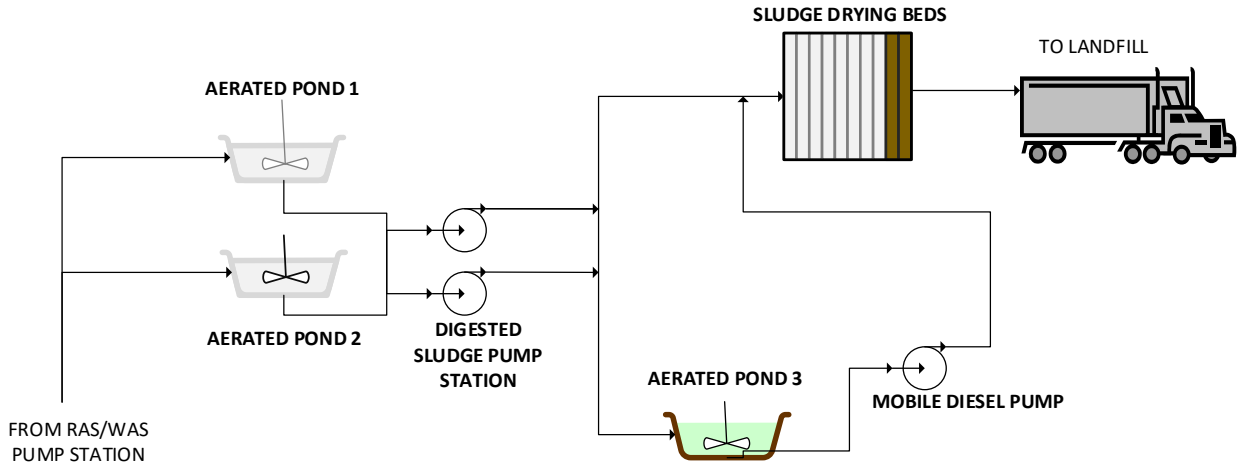


Figure 2-3. Process Flow Diagram of Solids Improvements

Available WAS flow and concentration data from January 2019 through May 2025 was analyzed to estimate future WAS conditions for storage and pumping requirements. Due to unusual operations of the aerobic storage pond and solids storage pond, data from 2024 and after was not used to calculate average

daily WAS flow and concentration. The average WAS flow for 2024 was roughly 95,000 gpd compared to 36,000 gpd from 2019-2023 with similar concentrations. The 2024 WAS data is not representative of normal operations as solids storage capacity was maximized resulting in recirculation of solids throughout the plant. The following assumptions were used for initial sizing:

- Linear increase in average daily WAS flow from historical data
- Maintained WAS solids concentration from historical data for Project design conditions
- Maintained ratio of volatile suspended solids to total suspended solids (VSS/TSS) from historical WAS data
- Assumed same VSS reduction from current operations based on May and June of 2025 data.

The location of the proposed solids handling improvements are shown in Figure 2-3 and existing and proposed Project design criteria are provided in Table 2-11.

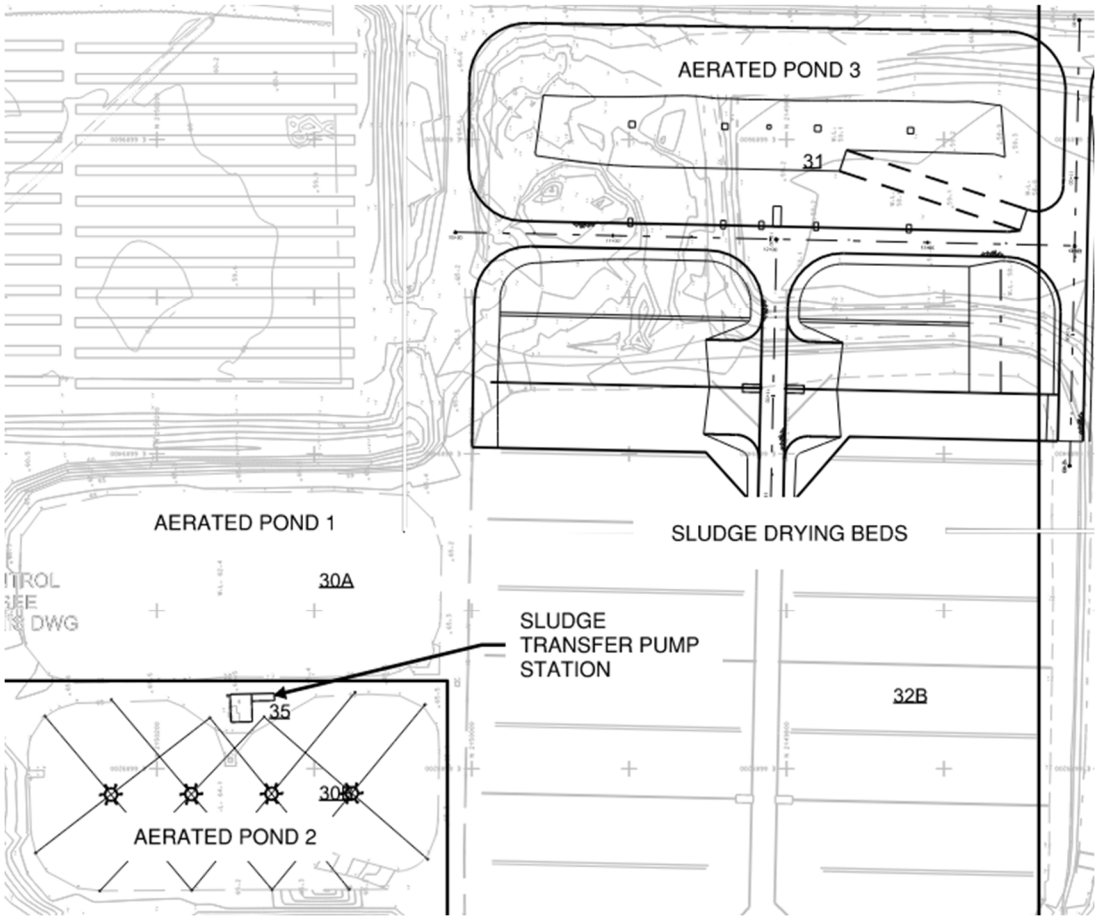


Figure 2-4. Proposed Solids Handling Site Plan

Table 2-11. Design Criteria for Solids Process Improvements

Parameter	Current Conditions (2019-2023)	Design Conditions
WAS		
Average Daily WAS Flow (gpd)	36,070	76,480
Average WAS Concentration (mg/L)	10,000	10,000
WAS VSS (% of TSS)	82%	82%
Aerated Storage Pond 1		
Volume (gal)	1,200,000	1,200,000 (no change)
Number of Surface Aerators & horsepower	4 @ 30 hp each	4 @ 30 hp each (no change)
Aerated Storage Pond 2 (converted)		
Volume (gal)	1,200,000 (unaerated)	1,200,000 (no change)
Number of Surface Aerators & horsepower	--	4 @ 50 hp each
Aerated Storage Pond 3 (new)		
Volume (gal)	--	1,700,000
Number of Surface Aerators & horsepower	--	6 @ 50 hp each
Total Aerated Ponds		
Total Aerated Pond Volume	1,200,000	4,100,000
HRT of Aerated Volume (days)	33	54
VSS Reduction (%)	21%	21%
Solids Transfer Pump		
Pump Type	--	Rotary Lobe
Number of Pumps	--	2 (1 duty, 1 standby)
Pump Capacity	--	650 gpm, each
Total Dynamic Head	--	30 ft
Motor Size	--	15 hp
Mobile Diesel Pump		
Pump Capacity	--	500 gpm
TDH	--	30 ft
Motor Size	--	7.5 hp
Sludge Drying Beds		
Number of Beds	8 total	2 new (10 total)
Size of beds, each (length x width)	180 ft x 90 ft	180 ft x 90 ft
Total Drying Area	113,400 sft	145,800 sft

2.7 Flow Equalization and Emergency Storage

The flow equalization basin (FEB) receives flow from the filter influent pump station (FIPS) as described in the Tertiary Filtration section. The FEB and FIPS are hydraulically connected by gravity pipes, meaning that the FEB water surface elevation (WSE) will increase and decrease with the FIPS WSE. This Project includes a new filter equalization pump station that can transfer contents of the FEB to the emergency storage basin (ESB) during sustained peak flow conditions. Flow diversion to the FEB is anticipated to decrease at current flow conditions due to project upgrades that increase filtration and UV capacity from 7.4 mgd to 11.5 mgd. The design flows used to evaluate the necessary storage are the PDF (12.6 mgd) and PHWWF (16.7 mgd). Figure 2-5 shows a basic process flow diagram of the FEB and ESB.

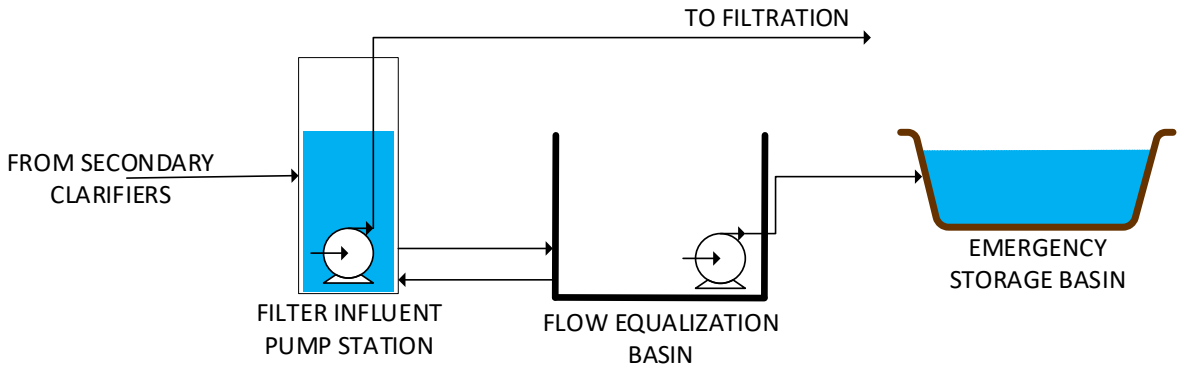


Figure 2-5. Flow Equalization and Storage Process Flow Diagram

2.7.1 Flow Equalization Basin Pump Station

The proposed FEB pump station will transfer excess flow to the ESB. High flow-low head pumps will be fixed speed, and control will be based on levels in the FEB. Lead and Lag pumps are called to start sequentially at high levels and to stop at low levels. A level switch high in the ESB will also stop both pumps to prevent the ESB from overflowing.

The FEB is equipped with a level transmitter, low level float switch, and two Emergency Transfer Pumps. As described above, peak flow from FIPS wet well will spill over an existing weir into the FEB where level is monitored. As the level in the FEB rises and approaches levels that would flood the weir in the FIPS wet well, the FEB transfer pumps will be called to start removing water from the FEB. The lead pump will run on a high level setpoint. The lag pump will run if the lead pump fails or the level continues to rise above a high-high level setpoint. All running pumps will stop at a low level setpoint. The float switch will protect the pumps from running if the level transmitter fails. The FEB pump station design criteria is shown in Table 2-12.

Table 2-12. FEB Pump Station Design Criteria

Parameter	Value	Units
Number of pumps	2 (Lead and Lag)	-
Pump type	Submersible Axial-Flow	-
Pump Capacity	1,600	gpm
TDH	8.5	ft
Motor size	10	hp

2.8 Utility Water Pump Station

Changes to the onsite Utility Water Pump Station are outlined below.

2.8.1 Pump Design Criteria

Utility water (W2) is used for non-potable purposes such as washing down equipment and equipment spray water. A fourth pump that matches the existing three pumps will be added to the existing pump station as there is existing space to add a fourth pump without structural modifications. The W2 pump station design is shown in Table 2-13.

Table 2-13. W2 Pump Station Design

Parameter	Value	Units
Type, Model	Vertical Turbine Multistage, Floway 6JKH	-
Number (existing/new)	3/1	-
Capacity, each (existing/new)	130/130	gpm
TDH (existing/new)	230/230	ft
Horsepower (existing/new)	15/15	HP

2.8.2 Pump Operations

The pump operations is summarized based on information gathered from the 2008 O&M Manual Draft prepared by CH2MHILL. Utility water pumps are controlled to automatically start and stop as pump distribution header pressure increases and decreases. The control system varies the number of pumps operating to maintain a relatively constant pressure (approximately 100 psi) in the distribution system. A pressure indicator and transmitter are connected to the pump discharge header to provide feedback to master plant control equipment. Adjustable set points and time delays are assigned to each pump for rapid response to changing flow demand without undue pump cycling or excessive run times. A float switch in the pump wet well prohibits pump operation if the water level is low. No significant changes are proposed with the installation of the fourth pump.

2.9 Instrumentation and Control

The Wastewater Utility's existing SCADA system, based on Wonderware InTouch and Historian running on a single desktop, lacks resiliency, scalability, and modern security features. This project will implement a robust, future-ready Operational Technology (OT) architecture designed to improve reliability, enable secure remote access, and support advanced process control.

The new design will include a private cloud infrastructure built on Nutanix Hyperconverged servers with the Acropolis Hypervisor (AHV), providing virtualization, centralized management, and high availability. Networking will feature Fortinet core and ruggedized access switches, eliminating unnecessary layers for simplicity and cost efficiency. Security will be enforced through FortiGate firewalls, VLAN segmentation, and secure tunneling. Ignition Perspective HMI will replace legacy systems, offering a modern web-based interface, mobile access, and integrated alarm notification—eliminating separate dialer solutions and reducing complexity.

Control will be managed by Allen-Bradley ControlLogix PLCs for plant-wide processes, supported by remote I/O racks to leverage existing controller capacity. CompactLogix PLCs will handle package systems such as UV disinfection and cloth disk filters. Programming will use Studio 5000 Logix Designer with the

latest approved firmware and software, ensuring compatibility and security. All SCADA-related applications will operate on Microsoft Windows 11.

The system will provide automatic and manual control modes, secure operator access, and comprehensive equipment monitoring with historical logging. Integrated alarm management and autodialer functionality will ensure timely response to critical events. This design positions the facility for improved reliability, enhanced cybersecurity, and operational flexibility for years to come.

Refer to Discipline Design Criteria, Section 3.10, for more comprehensive design requirements.

2.10 Building Improvements and Additions

The following sections outline improvements to existing buildings and the proposed new Maintenance Shop.

2.10.1 Control Building

The control building is Facility 40A on the site plans (Appendix A). Electrical equipment in the southwest corner of the existing Control Building will be demolished or salvaged providing space for the new server rack and supporting equipment. The new Server Room will include an isolated HVAC system and interior modifications required per building code. No other modifications are proposed within Facility 40A.

2.10.2 Operations Building

The operations building is Facility 40B on the site plans (Appendix A), currently used as a Maintenance Shop, and is located adjacent to the Control Building. The existing building will be modified to support work areas, with a conference room, offices, and locker room with shower for operations staff. It is assumed the building area will not increase beyond existing exterior walls nor will the building act as the primary public entrance.

2.10.3 Maintenance Shop

The maintenance shop is a new building which will be designed and constructed in this project. Its Facility ID will be finalized during design (currently 40C). See section 3.1.6 for site layout of the shop. The maintenance shop will include interior space for maintenance, welding, storage, a truck bay, office, and restrooms as required for code compliance. Total area for the new shop will be approximately 2,300-square feet. See section 3.3 Architecture for more information on the Maintenance Shop.

3. Discipline Design Criteria

This chapter of the PDR provides specific design criteria parameters and details as they relate to the technical disciplines involved in the Project.

3.1 Site Civil

3.1.1 General Description

This section defines and documents the site development. The recommended layout will lead to further development in subsequent design phases. Items addressed in this section include the basis for layout, such as major site features, paving, and site grading, as shown on the drawings.

3.1.2 Codes, Regulations, and Standards

The following codes, standards, and specifications will apply to the site civil and yard piping design. Unless otherwise specifically stated, the latest edition of the codes will apply.

- American Association of State Highway and Transportation Officials (AASHTO)
- American Concrete Institute (ACI)
- American Waterworks Association (AWWA)
- American Society of Mechanical Engineers (ASME)
- ASTM International (ASTM) Standards
- American Welding Society (AWS)
- California Department of Transportation (CALTRANS)
- California Building Code (CBC)
- California Fire Code
- California Plumbing Code
- California Stormwater Quality Association
- California Division of Occupational Safety and Health (Cal OSHA)
- NSF International (NSF)
- National Fire Protection Association (NFPA)

3.1.3 Survey

Topography shown on the plans is from field survey in June 2021, January 2022, and November 2024 by MHM Inc. The remaining site topography was prepared by photogrammetric methods from aerial photography dated 1-21-2024 and has been trimmed and replaced with as-built information from the 2004 plant expansion project where outdated. Additional site features have been added approximately from aerial imagery provided by MHM Inc. Existing conditions may vary from those shown on plan sheets. The contractor will be required to verify existing conditions and adjust work plan accordingly prior to beginning construction.

Coordinates are based on the North American Datum of 1983 (NAD83), California State Plane Zone 2, US Survey Feet. Elevations are based on the North American Vertical Datum of 1988 (NAVD88). The NAVD88 Datum is 2.29 FT higher than the datum used for the 1975 and 1990 Wastewater Treatment Facility drawings and FEMA maps for this area (NGVD29).

Limit of work is at the property line or existing fence. The property line is located approximately based on the northeast corner of the fence. Distances reflect Yuba County assessor's map data. Bearings were based

on a title report as shown by Laughlin and Spence Civil Engineers and Surveyors on the preliminary sludge pond liner and new drying beds drawings.

3.1.4 Demolition

The WWTP will remain in operation during construction activities. Existing facilities and site features to be demolished will be shown on the drawings. Significant site structures that will be demolished within the project include an existing primary clarifier and distribution structure located near Headworks. The demolition approach will be to remove and clear all obstacles that may interfere with construction of the new facilities. Underground pipes or conduits may be abandoned in place if trenching for new installation is not required. The location and limits for abandoning utilities in place will be shown on drawings, and pipes will be capped or plugged. The contractor will be required to follow OSHA and industry standards when demolishing or abandoning existing facilities. It is assumed that all demolished site structures will be removed from the site for final disposal within the Project.

3.1.5 Grading and Drainage Design Criteria

Where possible, existing grades and elevations will be maintained as close as possible to the existing elevations, including buried yard piping, electrical and conduits, and work occurring around the following facilities:

- Facility 12, Filter Influent Pump Station
- Facility 13, Tertiary Filters
- Facility 14, UV Disinfection
- Facility 15, Post Aeration

Where new facilities and grading occur, finished grade will slope to curb and gutter or valley gutters to direct sheet flow to the existing onsite drainage system. Finish grade elevations will be set flush with landings and sidewalks at doorways to provide architectural barriers act (ABA) accessibility through each of the facility access points. Grades will slope to approximately 0.5 foot below facility finish floor elevations, away from the doors, to prevent stormwater from entering through the doors. Positive grades of at least 2 percent will be placed on paved surfaces to route stormwater away from the buildings. Grading is planned with the following new facilities:

- Facility 8D, Secondary Clarifier
- Facility 31; Aerated Solids Storage Pond 3
- Facility 32A and 32B, Sludge Drying Beds
- Facility 40C, New Maintenance Building

The following criteria for slopes will be used for site grading:

- Paved cross slopes: 2 percent recommended; 3 percent maximum
- Access roads: 5 percent maximum
- Unpaved cut and fill slopes:
  - Fill slopes: 2:1 maximum, 3:1 or flatter – typical
  - Cut slopes: 2:1 maximum, 3:1 or flatter – typical

3.1.6 Site Layout

The proposed maintenance shop is situated in the northwest corner of the existing plant. The existing abandoned primary clarifier and primary effluent distribution box will be demolished. The proposed secondary clarifier is situated east of the existing secondary clarifier. An asphalt concrete pavement with

compacted aggregate base course will be designed in accordance with the Standard Specifications for California Department of Transportation (Caltrans 2018).

The proposed aerated solids storage pond 3 is situated east of the existing sludge drying beds. The existing sludge drying beds will be extended to the east with two new drying beds.

The proposed access roads will be a minimum of 16 feet wide to provide maneuverability for the larger trucks and emergency vehicles accessing the facility. The access roads will be designed to follow existing grades as closely as possible, to minimize cut and fill slopes and maintain existing drainage patterns. The turning radii for the roadways will be adequately sized so that a WB-40 design vehicle can enter and exit the site. Gravel surfacing will be developed for proposed access roads to replicate existing access roads, with the exception of the access road between drying beds. The existing access road between drying beds is an asphalt concrete pavement and will be replaced and extended in kind.

3.2 Yard Piping

This section defines and documents the yard piping. The recommended yard piping will be further developed in subsequent design phases. Items addressed in this section include existing utilities, relocates and crossings, trench design and yard piping design and alignment, as shown on the drawings.

3.2.1 Codes, Regulations and Standards

See section 3.1.2 for codes, regulations and standards relating to yard piping.

3.2.2 Existing Utilities

The location of existing utilities are based on the best available data such as as-built drawings and topographic survey. Contractor will verify the location and elevation of all utilities during construction and notify the engineer of any discrepancies. The contractor will maintain service to existing facilities during construction to maintain operation of the Wastewater Treatment Facility.

3.2.2.0 Utility Crossings

The locations of known utility crossings will be shown on drawings. The contractor will be required to positively identify the utilities (pothole) prior to construction. Existing already abandoned in place utilities are shown on the drawings; the contractor will be required to confirm non-operation of those crossings prior to removal if they conflict with the new alignments.

3.2.2.1 Utility Relocations

At the site of the new clarifier, the existing 4-inch SSM, 6-inch W2 and 6-inch WAS will be relocated. The utilities will remain in operation during operation and tie-ins will be coordinated with OPUD WWTP staff.

3.2.3 Trench Design

Trench design for yard piping anticipates utilizing vertical trench walls with a trench box, hydraulic shoring or sloped trench walls. Vertical trench walls are assumed due to the proximity of existing below grade infrastructure at the site. The minimum trench width is the pipe outside diameter plus 8 to 12 inches clear (horizontally) on each side. The minimum trench depth is 4 to 6 inches below the outside diameter of the pipe plus the distance to finish grade.

3.2.3.0 Pipe Zone, Pipe Bedding and Trench Zone

Minimum pipe zone is from 1 foot above the top of the outside of the pipe to the bottom of the pipe and includes 8 to 12 inches from each side of the pipe. Metallic marking tape will be placed 1 foot above the pipe at the top of the pipe zone and for long stretches of pipe tracer wire will be affixed to the crown of the pipe. Pipe bedding is minimum 4 to 6 inches below the bottom of the pipe. Trench stabilization material may be used below pipe bedding as needed.

3.2.4 Yard Piping Alignment

Yard piping alignment will be shown on the drawings. Stationing and profiles will be shown for yard pipe 12 inch and larger. For yard pipe smaller than 12 inches, control points will be provided.

3.2.4.0 Horizontal Alignment

Minimum separation of new pipeline and existing buildings is 5 feet. Maintain minimum separation between new potable water and existing sanitary sewer of 10 feet.

3.2.4.1 Vertical Alignment

Minimum cover over pipeline is 3 feet below finish grade for all piping with liquid. Minimum vertical separation between pipelines is 3 inches. Yard piping with less than 12 inch separation between pipes will have CLSM bedding between the pipes. Any new potable water crossing above sanitary sewer will have 12 inch separation and be above sanitary sewer.

3.2.5 Yard Pipe Size and Material

Gravity and pressure pipe will be mechanically restrained at joints and fittings. Thrust blocks will not be allowed. New yard pipe materials include welded steel (WS), glass lined ductile iron (GLDI), cement lined ductile iron (CLDI), polyvinylchloride (PVC) pipe and flex tubing. Yard piping flow stream, size and material types are listed below. Final size and material selection will occur as design progresses to final design.

Yard Pipe Includes:

- Digested Sludge (DS); pressure flow, 6 inch GLDI pipe
- Decant (DT); gravity flow, 6 inch CLDI pipe
- Filter Effluent (FE); pressure flow, 24 inch and 30 inch CLDI pipe
- Filter Influent (FI); pressure flow, 20 inch and 30 inch WS pipe
- Mixed Liquor (MIL); gravity flow, 30 inch CLDI pipe
- Non-Potable Water (W2): pressure flow, 4 inch PVC pipe
- Plant Drain (PD); gravity flow, 8 inch CLDI pipe
- Potable Water (W1); pressure flow, 2 inch and 1 inch PVC pipe
- Return Activated Sludge (RAS); pressure flow, WS pipe
- Underdrain Pipe (UD); gravity flow, 6 inch and 8 inch slotted PVC pipe
- Sample (SA); pressure flow, 1/2 inch flex tubing
- Secondary Effluent (SE); gravity flow, 30 inch WS pipe and pressure flow, 20 inch WS pipe
- Secondary Scum (SSM); pressure flow, 4 inch GLDI pipe
- Sanitary Sewer (SS); gravity flow, 4 inch CLDI pipe
- Waste Activated Sludge (WAS); pressure flow, 6" CLDI pipe

Yard Pipe Appurtenances:

- Isolation Valves: Isolation valves will be provided on the relocated non-potable water pipeline, new digested sludge pipeline and the plant drain pipeline routing emergency storage back to the front of the plant. Non-rising stem gate valves will be used for the non-potable water and plant drain valves and plug valves will be used for the pumped digested sludge pipeline.
- Yard Hydrants: Additional yard hydrants will be added at the new solids storage pond and at the extended sludge drying beds. The hydrants will be W2, non-freeze post hydrants.
- Cleanouts: Cleanouts will be provided on digested sludge, sanitary sewer and plant drain pipe with bends greater than 45 degrees.

3.3 Architecture

The OPUD project proposes a new construction Maintenance Building to accommodate additional maintenance space needs for the site, and to then renovate the existing maintenance facility and convert it into usable office space to expand the functionality of the existing Administration building.

3.3.1 Codes, Regulations, and Standards

All new facilities and existing facilities to be rehabilitated will be designed to conform to the following codes, standards, and regulations. The upcoming 2025 editions of California Codes go into effect on January 1, 2026, and will be used for this Project.

- 2025 *California Administrative Code* (Part 1 of Title 24)
- 2025 *California Building Code* (Part 2 of Title 24)
- 2025 *California Electrical Code* (Part 3 of Title 24)
- 2025 *California Mechanical Code* (Part 4 of Title 24)
- 2025 *California Plumbing Code* (Part 5 of Title 24)
- 2025 *California Energy Code* (Part 6 of Title 24)
- 2025 *California Fire Code* (Part 8 of Title 24)
- 2025 C*alifornia Existing Building Code* (Part 10 of Title 24)
- 2025 *California Green Building Standards Code* (Part 11 of Title 24)

3.3.2 Energy Code Data

The new Maintenance Facility and renovated existing maintenance facility will comply with applicable portions of the California Energy Code. Located in climate zone 11 (Olivehurst, CA 95961), enclosed and conditioned spaces will comply with the following Envelope Requirements per CEC 140.3

- Walls (Mass Light) – U-0.170 (R-6)
- Roof / Ceiling (Other) – U-0.034 (R-30)
- Floor (Slab-on-Grade) – None Required
- Exterior Doors (Swinging) – U-0.70 (R-1.5)
- Exterior Doors (Non-Swinging) – U-1.45 (R-0.7)
- Fixed Windows – U-0.36

The new maintenance facility will also need to comply with 110.10 Mandatory Requirements for Solar Readiness. The roof design shall provide a solar-ready area no less than 15% of total roof area.

3.3.3 Accessibility and Universal Design

Project accessibility will comply with California Building Code Accessibility Chapter 11B. This includes the new maintenance facility, and the renovated maintenance building being converted into office space. Any machinery spaces frequented only by service personnel for maintenance / repair / monitoring of equipment shall be exempt per 11B-203.5 "Machinery Spaces."

3.3.4 Design Concepts

The new Maintenance facility will be an above-ground structure and designed in consideration with its intended use. The proposed facility will contain a bay for pulling vehicles / equipment through the shop, a workshop and welding area, storage, an office, and restrooms as required by code.

The existing maintenance facility will be renovated to provide additional office, conference, and locker space to the current adjacent administration building. Existing openings will be utilized for doors and windows, with the remaining be infilled to match existing adjacent construction.

- Proposed Materials Systems:
  - Roof: Prefinished standing seam metal roof system over rigid insulation over metal deck.
  - Walls: Concrete masonry walls (Split-face CMU), integrally colored with water repellant sealer. Interior surfaces will be provided with furring and gypsum wall board at restroom and office areas.
  - Floors: Cast-in-place concrete slab with protective sealer.
  - Ceilings: open to structure in workshop / bay areas. Ceiling system for bathrooms and offices – suspended acoustical ceiling tyle, 9 feet above finished floor typical.
  - Windows: Hollow Metal frames with insulated glazing as required by energy code.
  - Doors & Frames: Hinged, swinging metal doors sized a minimum of 3 feet by 7 feet single and pairs. Overhead, Coiling metal doors at vehicular bays for entry of both sides of facility. All exterior doors will be insulated to meet energy code requirements and conditioned spaces.
  - Door Hardware: Heavy-duty stainless steel hardware with locking coordinated with existing site master systems.
  - Louvers: Extruded aluminum louvers (Fixed, Drainable), to be provided as required by building mechanical design for unconditioned / naturally ventilated spaces.
  - Signage: Building signage will be provided to identify new and renovated facilities, to be coordinated with existing site signage for consistent aesthetics. Safety and hazard signage will be provided to satisfy code requirements.

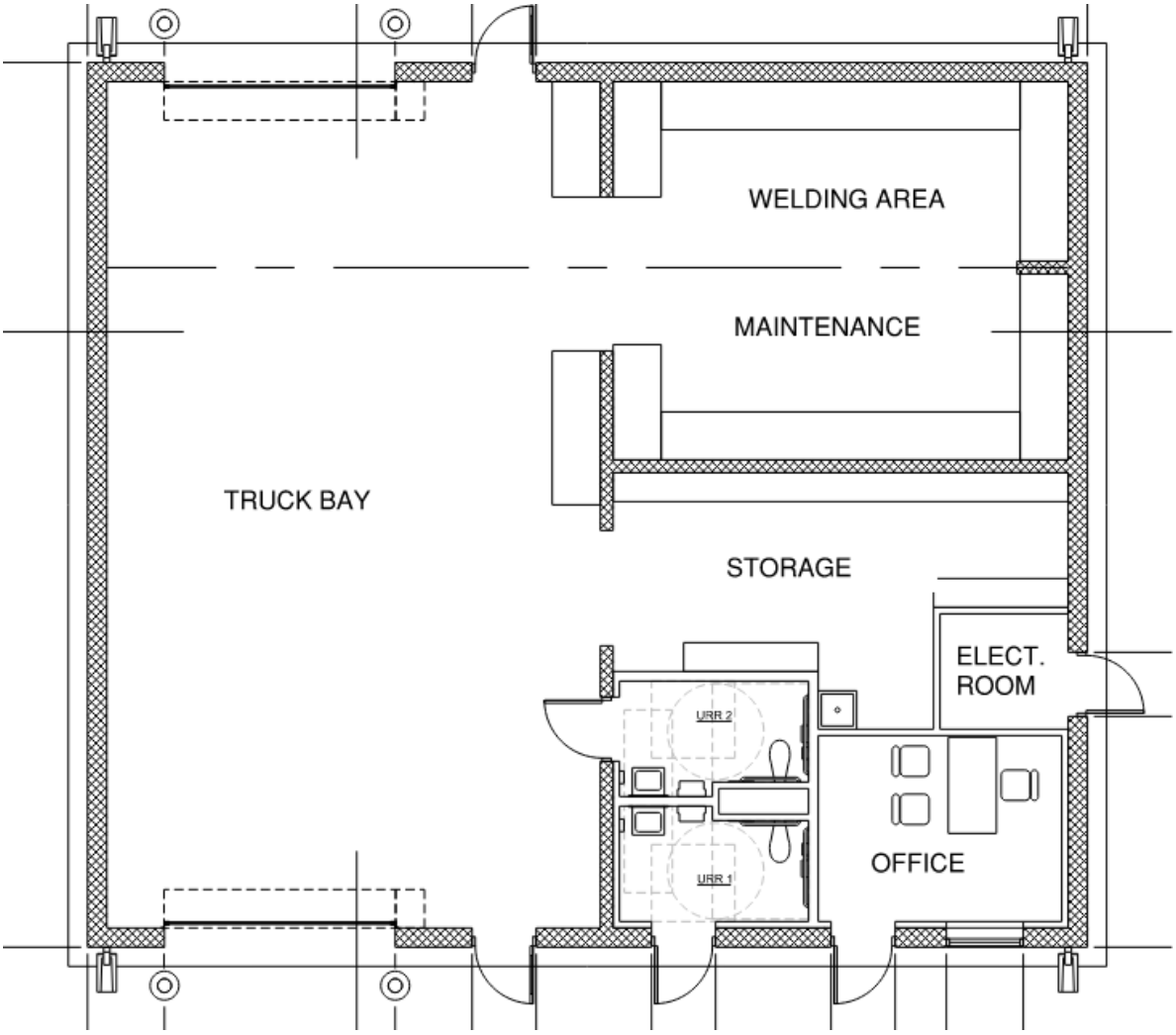


Figure 3-1. Proposed New Maintenance Shop Floor Plan

3.4 Geotechnical

The geotechnical criteria for the project have been developed from interpretation of available geotechnical data collected at the WWTP. The following geotechnical reports were reviewed:

- CH2M Hill. 2004. Olivehurst Public Utility District Wastewater Treatment Plant Expansion and Upgrade Project, Schematic Design-Preliminary Geotechnical Exploration Report.
- Blackburn Consulting. 2022. Geotechnical Data Report, Olivehurst Public Utilities District, South Yuba Sewer and Water Infrastructure Project.
- Blackburn Consulting. 2025. Geotechnical Basis of Design Report, Olivehurst Public Utilities District, Sewer Pump Station and Pipeline Infrastructure Improvements Project.

Geotechnical recommendations and design criteria for the project are included in the Geotechnical Basis of Design Report (Blackburn, 2025). This section presents a summary of select geotechnical details, and an update or clarification where necessary. Refer to the Blackburn report for a full presentation of the geotechnical design criteria and recommendations. In November 2025, Blackburn Consulting performed additional geotechnical exploration near the proposed maintenance shop. Laboratory data collected at these borings will be used to update the design criteria, if necessary.

3.4.1 Soil Profile

The soil profile across the WWTP area is highly stratified and consists mainly of lean clay and silt underlain by poorly graded gravel and sand. At the proposed secondary clarifier location, the upper 20 feet comprise stiff to hard lean clay and non-elastic silt with varying amounts of sand and gravel. Below this, a 10-foot layer of poorly graded clayey sand and clayey gravel is present, followed by another 10 feet of hard lean clay with varying silt, sand, and gravel content. At the proposed solids storage pond, the upper 20 feet consist of very stiff to hard lean clay with sand and gravel, underlain by stratified layers of sand and gravel. The DS pump station area has 10 feet of dense clayey sand with silt at the surface, underlain by 10 feet of very stiff lean clay and a final 5-foot layer of dense gravelly material with fines. The emergency storage basin includes 10 feet of dense to hard lean clay, followed by a thick sequence of poorly graded gravel and clayey sand extending to about 35 feet. In the southeast section, the upper 30 feet consist of dense clayey sand with stratified silt, underlain by approximately 10 feet of alternating gravel and lean clay layers.

3.4.2 Seismic Site Class

The *Geotechnical Basis of Design Report* (Blackburn Consulting, 2025) assumed an average shear wave velocity (V_{S30}) of 850 ft/sec, corresponding to Site Class D per ASCE 7-22. The general subsurface profile consists of stiff and dense soils, which supports this classification. Actual shear wave velocities were not measured; instead, they were estimated based on hammer blow counts observed during soil sampling in the borings.

3.4.3 Groundwater

Previous investigations by Blackburn Consulting at the Olivehurst WWTP encountered groundwater at depths ranging from approximately 18 ft to 22 ft below ground surface (bgs). Similarly, borings conducted by CH2M Hill in 2004 recorded groundwater between 20 ft and 28 ft bgs. The November 2025 borings measured groundwater at depths of 17 ft to 20 ft bgs. While groundwater is generally deeper than 17 feet below the ground surface, more shallow perched water may occur within the near-surface soils during the winter and spring months.

3.4.4 Foundations

Continuous strip and isolated footings should be embedded a minimum of 18 inches into the lowest adjacent prepared subgrade. Both footing types must have a minimum width of 18 inches and should be proportioned so that the applied loads do not exceed an allowable bearing capacity of 2,000 pounds per square foot (psf) for combined dead and live loads. This allowable bearing capacity may be increased by one-third when seismic and/or wind loads are included in the design. The planned secondary clarifier is a below-grade structure; therefore, for mat foundations founded more than 10 feet below ground surface (bgs), a maximum net contact pressure of 3,000 psf should be used. This section may be revised following acquisition and review of laboratory data from the November 2025 borings.

As moderately expansive clay underlies the site, concrete slabs-on-grade should be minimum 6 inches thick, underlain by 8 inches of washed, crushed and compacted rock to provide uniform support and mitigate potential expansive soil. Concrete reinforcement, doweling, curing, joint spacing and mix design should conform to ACI guidelines.

3.4.5 Lateral Earth Pressures

Native clay soils should not be used as backfill around buried structures because the lateral pressures could become excessive due to low strength and expansive clay behavior when the soil becomes wet.

Instead, imported structural fill materials should be used for backfill around below grade structures. In accordance with Blackburn's recommendations, the structural fill should contain between 12% and 40% material passing the No. 200 sieve and should be moisture conditioned to within 2% of optimum moisture content and compacted to a minimum of 92% relative compaction based on ASTM D1557.

To minimize residual lateral earth pressures on buried structure walls, compaction equipment used behind the walls must be restricted by load and distance so that design values are not exceeded. Compaction within a horizontal distance equal to one-half of the wall height (up to a maximum of 5 feet) is recommended to be performed using hand-operated equipment weighing less than 300 pounds.

Lateral earth pressures for buried structures should be calculated using an equivalent fluid approach with the recommended densities as 97 pcf and 150 pcf for at-rest and passive conditions respectively. These pressures assume undrained structural backfill placed against the structure wall, a saturated (total) unit weight of approximately 135 pounds per cubic foot (pcf), and a minimum internal friction angle of 32 degrees. These values may be revised following acquisition and analysis of laboratory data from the latest borings.

3.4.6 Construction Considerations

Based on observed soil conditions and drilling performance, excavation can generally be accomplished using conventional earthmoving equipment, such as large backhoes or excavators. Prior to initiating trenching or performing any cuts and fills, all existing underground utilities, foundations, vegetation (including root systems), debris, and other subsurface obstructions should be removed.

Dewatering will likely be necessary for excavations extending deeper than elevation 43 feet (NAVD88), and significant groundwater inflow should be anticipated for deeper excavations associated with the clarifier structure. Dewatering methods should include the use of dewatering wells around the excavation, and groundwater should be lowered to at least 4 feet below the planned excavation bottom to facilitate construction activities.

3.5 Structural

3.5.1 Structural Criteria

The structural criteria have been developed to provide a common basis for all structural designs in line with accepted structural practice and standards for improvements to the Olivehurst WWTP structures.

3.5.1.0 Applicable Codes and Standards

The following summarizes the specific codes and industry standards that will be used as basis of design so that the strength and quality of the materials and design procedures meet the required standards.

- 2025 California Building Code
- 2025 *California Existing Building Code*
- American Society of Civil Engineers, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures 2022* (ASCE 7-22)
- American Concrete Institute (ACI), *Specifications for Concrete Construction* (ACI 301-20)
- American Concrete Institute, *Building Code Requirements for Structural Concrete 2019* (ACI 318-19)

- American Concrete Institute, *Code Requirements for Environmental Engineering Concrete Structures* (ACI 350-20)
- American Concrete Institute, *Code Requirements for Seismic Analysis and Design of Liquid-Containing Concrete Structures* (ACI 350.3-20)
- American Institute of Steel Construction, *Specifications for Structural Steel Buildings 2022* (AISC 360-22)
- Aluminum Association, *Aluminum Design Manual 2020*
- The Masonry Society, *Building Code Requirements and Specifications for Masonry Structures* (TMS-402/602-22)
- American Welding Society, *Structural Welding Code – Steel 2020* (AWS D1.1)
- American Welding Society, *Structural Welding Code – Aluminum 2020* (AWS D1.2)

3.5.1.1 Existing Structural Documents

Wastewater Treatment Facility Improvements, Olivehurst Public Utility District, CH2M Hill, April 1975

Wastewater Treatment Plant Phase 1A Expansion and Upgrade, Olivehurst Public Utility District, CH2M Hill, July 2004

3.5.2 Loads

3.5.2.0 Dead Loads

Dead loads consist of structural self-weight of all new structures as well as the weight of any additional equipment being added to the facilities. In addition, 5 pound-per-square-foot (psf) load will be added as collateral load to UV facility canopy roof.

3.5.2.1 Live Loads

The live loads are shown in Table 3-1.

Table 3-1. Design Criteria for Live Loads at Maintenance Shop building and UV facility canopy.

Parameter	Value	Unit(s)
Office	50	psf
Storage and Maintenance Rooms	200	psf
Truck Bay		psf
Roof live load	20	psf
Railing	200 lb concentrated or 50 lb/ft uniform	-

lb = pound(s)
plf = pound(s) per linear foot

3.5.2.2 Snow Loads

The design criteria for snow loads are shown in Table 3-2.

Table 3-2. Design Criteria for Snow Loads at UV Facility Canopy.

Parameter	Value	Unit(s)
Ground Snow Load	11	psf
Winter Wind Parameter, W2	0.35	-
Surface Roughness Category	C	-
Exposure of Roof	Partially Exposed	-
Exposure Factor, Ce	1.0	-
Thermal Factor, Ct	1.2	-
Slope Factor, Cs	1.0	-

Unbalanced snow loads as required by ASCE-7

Table 3-3. Design Criteria for Snow Loads at Maintenance Shop Building.

Parameter	Value	Unit(s)
Ground Snow Load	11	psf
Winter Wind Parameter, W_2	0.35	-
Surface Roughness Category	C	-
Exposure of Roof	Partially Exposed	-
Exposure Factor, C_e	1.0	-
Thermal Factor, C_t	1.0	-
Slope Factor, C_s		-

Unbalanced snow loads as required by ASCE-7

3.5.2.3 Wind Loads

The wind loads are shown in Table 3-4.

Table 3-4. Design Criteria for Wind Loads

Parameter	Value	Unit(s)
Basic wind speed, V	105	mph
Risk Category	IV	-
Exposure Category	C	-
Topographic Factor, K_{zt}	1.0	-
Ground Elevation Factor, K_e	1.0	-
Velocity Pressure Exposure Coefficient, K_z	0.85	-

mph = mile(s) per hour

3.5.2.4 Seismic Loads

The seismic design parameters shown in Table 3-5 are in accordance with ASCE 7-22 and based on the ASCE online Hazard tool.

Table 3-5. Design Criteria for Seismic Load

Parameter	Value	Unit(s)
Mapped Spectral Response Acceleration		
Short Period, S_S	0.6	-
1 Second Period, S_1	0.23	-
Design Spectral Response Acceleration		
Short Period, S_{DS}	0.59	-
1 Second Period, S_{D1}	0.39	-
Site Soil Class	D	-
Risk Category	IV	-
Importance Factor	1.5	-
Seismic Design Category, SDC	D	-

3.5.2.5 Hydrodynamic Loads

The hydrodynamic forces will be developed in accordance with ACI 350.3-20 as modified by ASCE 7-22.

3.5.2.6 Lateral Earth Pressure and Buoyancy

Lateral earth pressure and buoyancy loads will be developed based on Geotechnical recommendation for all underground structural elements and facilities. An additional surcharge load equal to 2 ft soil weight will be added to lateral earth pressure.

3.5.3 Construction Materials

Table 3-6 summarizes the major materials that will be used to construct the proposed facilities.

Table 3-6. Construction Materials for Proposed Facilities

Material Parameter	Property
Cast-in-Place Concrete:	
Minimum Compressive Strength	4,500 psi at 28 days, Normal weight
Cement Type	II or V
Maximum Water to Cement Ratio	0.42
Reinforcing Steel	ASTM A615 Gr. 60
Masonry	
Concrete Masonry Units	ASTM C90, Medium weight
CMU Compressive Strength	2,000 psi at 28 days
Mortar	ASTM C270, Type S
Grout	ASTM C476
Structural Steel:	
W-Shapes, T-Shapes, Channels	ASTM A992

Material Parameter	Property
M-shapes, S-shapes, Angles, Plates, Bars	ASTM A572 Gr. 50 or ASTM 36
Rectangular HSS	ASTM A500 Gr. C (Fy = 50 ksi)
Round HSS	ASTM A500 Gr. C (Fy =50 ksi)
Pipes	ASTM A 53 Gr. B (Fy = 35 ksi)
Stainless Steel:	
Plates	ASTM A240 Type 316
Bars and Shapes	ASTM A276 Type 316
Aluminum	
Aluminum Structural Shapes	ASTM B308 6061-T6
Aluminum Plates	ASTM B209 6061-T6
Aluminum Grating and Railing	ASTM B221 Alloy 6061-T6
Aluminum Welding Electrodes	4043
Bolts and Rods	
High-Strength Steel Bolts	ASTM F3125 A325
Common Bolts	A307
Nuts	ASTM A563
Anchor Rods	F1554 Gr. 36, 50 or 105
Stainless Steel Bolts	ASTM F593 Type 316
Adhesive Anchors	Stainless Steel ASTM F593 Type 316

FY = yield strength
HSS = hollow structural sections
ksi = kilopound per square inch

3.5.4 Structural Systems

3.5.4.0 Proposed Structural Facilities

3.5.4.0.1 Maintenance Shop Building

A new single-story maintenance shop building is proposed for the area west of the existing control building. This new building will have dimensions of 48 fee by 46 feet in plan. The new building is planned to have a masonry bearing wall structure with metal deck roof supported by steel open web joists. The masonry walls will act as special reinforced masonry shear walls to resist lateral loads. The new maintenance shop building will have a truck bay which will be designed to accommodate truck loads as well as maintenance, storage and office areas.

3.5.4.0.2 UV Facility

The existing UV facility consists of an underground concrete structure approximately 97 feet by 18 feet in plan. A new metal building system canopy will be added to the facility. The canopy will have additional portal frames for resisting lateral loads. New concrete isolated and combined footings will be added adjacent to existing concrete walls as foundation.

3.5.4.0.3 Control Building

The existing one-story masonry building will undergo changes to expand the office space. Some parts of the interior masonry walls will be removed to accommodate these changes. New structural beams may be required to support the existing roof, if any load-bearing CMU walls are removed. Additionally, the impact on the lateral force resisting system will be evaluated to ensure the structure maintains stability and code compliance.

3.5.4.0.4 Tertiary Filters Facility

A new concrete slab is being added to the facility to support 2 new filter units. Also, a new aluminum walkway will be constructed to provide access to the units for maintenance. The walkway will be 23 feet long and 4.5 feet wide and will be laterally supported with diagonal bracings.

3.5.4.1 Special Inspections and Structural Observation

Special inspections will be required in accordance with Chapter 17 or the 2025 CBC. The design professional in responsible charge will prepare a statement of special inspection in accordance with section 1704 of the code. The statement will identify the requirements of special inspection, including the type and extent of work. In addition, Chapter 17 of the 2025 CBC requires a registered design professional to perform structural observations for structures classified as Risk Category IV.

3.6 Process Mechanical

3.6.1 Codes, Regulations, and Standards

The mechanical design will use applicable industry standards and design guidance for piping, valves, and process equipment. The following is a list of the more significant resources that will be followed for the design and specification standards:

- American Water Works Association
- American Society of Mechanical Engineers (ASME)
- American National Standards Institute (ANSI)
- Hydraulic Institute
- NFPA

3.6.2 Process Equipment Layout and Access

The following will be implemented to make the WWTP functional, operable, and maintainable. When developing process equipment layouts, the following minimum requirements will apply:

3.6.2.0 Equipment

- Necessary clearance for equipment removal, replacement, or maintenance will be provided in the layout on the drawings. A minimum 3 ft clearance will be provided on at least three sides of the equipment footprint. Additional space will be provided as required for specific equipment.
- Flexible connections will be employed to permit easy assembly and disassembly of connections to equipment.
- Equipment and panels will be mounted on equipment pads or elevated with legs or by mounting to walls to protect them from washdown.

- Ladders and hatches will be provided to access and remove equipment, where applicable.
- Lifting eyes will be provided above equipment not otherwise provided with lifting means (for example, a hoist or crane).

3.6.2.1 Piping and Valves

- Piping will be located such that it is not a tripping hazard, a head-knocker, or a barrier to equipment access.
- Minimal piping will be located above compressors or pumps to facilitate lifting the equipment.
- In general, piping will be configured such that it is close to walls where it can be easily supported, particularly in spaces with high ceilings.
- Pipe supports and seismic bracing are generally not shown on the layout drawings; however, it will be verified that adequate space is available for installing these supports.
- Flexible connections will be employed to permit easy assembly and disassembly of piping.
- Valves will be kept within operator reach (below 6 ft), or a chain operator will be provided for valves greater than 6.9 ft above the operating floor.

3.6.2.2 Hydraulic Calculations

AFT Fathom hydraulic software package will be used to calculate hydraulics and determine pipe sizing. AFT Fathom performs steady-state, incompressible, Newtonian or non-Newtonian fluid behavior and energy analysis. Fathom is used to calculate pressure drop and flow distribution in liquid and low-velocity gas piping and ducting systems.

Replica is a suite of models and object libraries developed in ExtendSim for dynamic simulation and for optimizing process systems. A Replica dynamic simulation model will be used to further develop hydraulic systems, as needed.

3.6.2.3 Pump Selection and Hydraulic Calculations

Hydraulic calculations will be prepared for all pump applications. Selected pump operating points will be centered near the pump best-efficiency point at the design condition. A rating point selected to the right of best-efficiency flow will allow higher efficiency at reduced flow and speed. Caution will be exercised in selecting pump operating points at the extremes of the pump operating curve because of possible excessive pump shaft radial loading, reduced bearing life, and possible shaft failure.

Care will be exercised in providing adequate overlap of pump performance when multiple parallel pump installations are provided. Proper pump sequencing requires that pumps have sufficient performance overlap to allow transition adding or dropping pumps in operation.

3.6.2.4 Piping Systems

Process piping includes yard piping, which may be entirely designed and specified outside of the mechanical discipline. Piping for process services and mechanical utilities in the yard also requires civil engineering coordination and consideration for earth loads and traffic loads.

- Design Codes and Standards
  - ANSI B31.3 – *Process Piping*
  - MSS SP 58 – *Pipe Hangers and Supports*

- MSS SP 127 – *Bracing for Piping Systems: Seismic, Wind, Dynamic Design, Selection, and Application*

3.6.2.5 Pipe Materials and Applications

A piping schedule will be included in the contract documents. The following is a table listing preliminary piping requirements by flowstream. A complete pipe schedule will be included in the contract documents organized by service legend and identifying materials, coatings, linings, and test pressures to be used for these services. Updates to the schedule will be made as design progresses.

Table 3-7. Preliminary Pipe Schedule

Legend	Service	Material
BWS	Backwash supply	Cement lined ductile iron, buried Welded steel, exposed
BWW	Backwash waste	Cement lined ductile iron, buried Welded steel, exposed
DS	Digested sludge	Glass lined ductile iron, buried & exposed
DT	Decant	Cement lined ductile iron, buried & submerged
FE	Filter effluent	Welded steel/ductile iron, buried Cement lined ductile iron, exposed
FI	Filter influent	Welded steel, exposed & buried
ML	Mixed Liquor	Cement lined ductile iron, buried & encased
OF	Overflow	Welded steel, buried Cement lined ductile iron, exposed
PD	Plant drain	Cement lined ductile iron, buried
RAS	Return activated sludge	Cement lined ductile iron, exposed & submerged
SE	Secondary effluent	Welded steel, buried & submerged
SI	Screened influent	Cement lined ductile iron, buried & exposed
SSM	Secondary scum	Glass lined ductile iron, buried & exposed
UD	Underdrain	PVC, buried & encased
W2	Non-potable water	PVC, <4" buried Galvanized, <4" exposed Cement lined ductile iron, ≥4" buried & exposed
WAS	Waste activated sludge	Cement lined ductile iron, exposed & submerged

3.6.2.6 Pipe Supports

The contact documents will include pipe support design and details for piping greater than 30 inches in diameter. The design details will be referred to from one or more mechanical drawings, where locations for pipe supports are indicated.

Pipe supports for piping less than or equal to 24 inches in diameter will be performance specified and designed by the contractor in accordance with the contract documents and submitted for engineer review prior to installation.

Expansion and contraction provisions will be designed for pipe operating at either high temperature or long runs of exposes piping subject to ambient temperature changes that may cause excessive movement.

3.7 Corrosion

3.7.1 Atmospheric Exposure

Atmospheric exposure includes both outdoor and noncorrosive indoor exposures. The following subsections describe anticipated exposure conditions and design approach recommendations.

- Polymer-based materials (that is, plastic, nonmetallic) require an ultraviolet barrier (spray applied coating) or ultraviolet-resistant resin embedded within a resin topcoat.
- Iron and steel surfaces will be protected from ambient atmospheric exposure conditions. Exposed carbon steel, cast iron, and ductile iron in the finished construction, in both indoor and outdoor locations, will be coated with epoxy primers and polyurethane finish coats for durability and gloss retention. Highly corrosive areas with high humidity, corrosive gases, and with frequent washdown will receive two coats of epoxy and a polyurethane finish coat.
- Steel decking and pre-engineered metal buildings will be coated with manufacturers' standard coating options. If manufacturers' standard coating offerings do not meet the intended service conditions, then field finish coats will be specified to provide proper corrosion protection.
- High temperature piping or surfaces will be insulated for personnel protection. Where condensation can collect beneath the insulation, coatings suitable for the temperature and under insulation will be provided.
- Exposed stainless steel will not be coated unless required for color-coding purposes or if found in contact with dissimilar metals. Isolation gaskets or will be specified where dissimilar metals are intact.
- Copper materials of construction will not require additional protection unless within a chemical facility or exposed to hydrogen sulfide (H_2S).
- Anodized aluminum has been used onsite and performed well. Therefore, aluminum is appropriate for service in exposed conditions present on this Project and will also be considered.
- Concrete and masonry construction components exposed to the atmosphere will not require supplemental corrosion protection but may be painted or stained for architectural purposes.

3.7.2 Submerged & Buried Exposure

Submerged exposure includes immersed metals, concrete, and polymer materials exposed to the process influent/effluent for extended periods, including inside pipe.

- Provide protective coatings for all submerged ferrous metals. Ferrous metals will have a minimum of 16 mils dry film thickness of epoxy suitable for immersion service.
- Type 304 or Type 316 for submerged stainless steel to temperatures not exceeding ambient temperatures unless chlorides exceed 100 or 1,000 parts per million of chlorides, respectively.

- Liner materials are not anticipated for submerged concrete surfaces unless the water has a strong negative calcium carbonate precipitation potential or has low pH.
- Submerged dissimilar metal connections will be electrically isolated. If electrical isolation is not possible, the dissimilar metals will be coated to minimize the driving potential between the dissimilar metals.
- Cement mortar liner performs well in most service conditions unless there are air pockets inside a pipe and H_2S can be generated. Buried Exposure

Buried exposure includes metals, concrete, and polymer materials exposed to the region's native soils.

- Chlorides will affect the performance of stainless steel. Geotechnical investigation test results will be used to determine whether Type 304 and 316 stainless steel require additional corrosion protection.
- Sulfate will affect concrete performance. Geotechnical test results will be used to determine whether special considerations for mix design, in accordance with ACI 201.2, are required.
- Thermite-welded wires for test station wires or bond wires will be protected with a weld cap.
- Buried steel pipe will be coated with epoxy or tape coat. Buried ductile iron will, at a minimum, be coated with manufacturers' standard asphalt coating and V-bio polyethylene encasement. High build epoxy coating system application will be identified as design progresses for both buried and encased ductile iron.
- Protective coatings and cathodic protection are typically not required for buried Type 316 stainless steel pipe.
- Buried dissimilar metal connections will be electrically isolated. Electrical isolation may be achieved by placing a small spool section of plastic pipe such as polyvinyl chloride (PVC).

3.7.3 Building Systems and Mechanical Equipment

Construction methods and materials will affect the long-term corrosion resistance of structures and equipment. Factors that should be included in design are summarized as follows:

- Shop and field welds to stainless steel will be ground smooth and passivated after fabrication in accordance with ASTM A380.
- Welded stainless steel components will be low-carbon grade (Type 304L or 316L). Hangers, supports, and mounting hardware for pipe, conduit, and ductwork should be stainless steel. Exceptions will be allowed for specific chemical storage and feed locations where stainless steel is not chemically compatible (that is, areas exposed to chlorine or fluorine vapors).
- Prevent metal-to-metal contact between buried ferrous metal piping or submerged carbon steel equipment and reinforcing steel in concrete structures.
- Aluminum embedded in or attached directly to concrete should be protected by applying bitumastic or epoxy coatings.

3.8 Building Services

3.8.1 Codes, Regulations, and Standards

New facilities and existing facilities to be rehabilitated will be designed to conform to the following codes, standards, and regulations, as required by federal, state, and local authorities.

- 2025 CBC (*California Code of Regulations*, Title 24)
- 2025 *California Mechanical Code*
- 2025 *California Plumbing Code*
- 2025 *California Fire Code*
- 2025 *California Build Energy Efficiency Standards for Residential and Nonresidential Buildings*
- 2025 *California Green Building Standards Code*
- American Society of Heating, Refrigerating, and Air-Conditioning Engineers
  - Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*
  - Standard 90.1, *Energy Standard for Buildings Except Low Rise Residential*
- ASME
- American Society of Plumbing Engineers
- Air-Conditioning, Heating, and Refrigeration Institute
- Sheet Metal and Air Conditioning Contractors' Association's *HVAC Duct Construction Standards: Metal and Flexible*
- 2024 *National Electrical Code*, NFPA 70
- 2020 *Standard for Fire Protection in Wastewater Treatment and Collection Facilities*, NFPA 820
- Occupational Safety and Health Administration's *General Industry Safety Orders*

3.8.2 Facility Design Criteria

3.8.2.1 Control Building

The existing control building will undergo changes to the building layout with a focus on expanding office space. These changes will impact the HVAC system design and layout. A new conference room will include a kitchenette with a fridge, sink, and dishwasher. The new conference room brings changes to the existing plumbing system. These changes will require an evaluation of the existing system.

3.8.2.2 Maintenance Shop Building

A new maintenance shop is proposed west of the existing control building. The new facility will have a truck bay and a small maintenance area which is intended for vehicle storage, not a mechanics shop. The facility will have a small office area with locker rooms which will include a restroom and shower area. A new HVAC system will be designed for a building.

A new plumbing system will be required and will need to be tied into existing utilities in the yard. As part of the plumbing system, a safety shower will be included near the storage area of the building. There will also be a utility sink in the shop for the maintenance area. A roof drain system will discharge to grade.

3.8.2.3 Tertiary Filters Facility

New filters are being installed at the existing Tertiary Filters Facility. As part of the expansion new chemical feed pumps and totes are being located on site where plant staff will interact with chemicals. A new Safety Shower and eyewash station is intended to be installed near the chemicals. New potable water

lines and temped water system will be installed to serve the needs of the safety shower and eyewash station.

3.8.3 Building Services Materials

The materials for the new plumbing system will meet the requirements of local codes. As appropriate, the plumbing system will match existing materials. The materials for the HVAC system will match the requirements of local codes and the existing material on site as appropriate.

3.8.4 HVAC System Description

3.8.4.1 Control Building

The existing HVAC system in the control building will be re-evaluated with the new space areas. From the evaluation, it will be determined if the existing equipment is adequate or if it needs to be replaced. The HVAC duct system will be redesigned in the areas that experience change. The new electrical room will have a separate ductless HVAC system to accommodate the new loads.

3.8.4.2 Maintenance Shop Building

The Maintenance Shop Building will have two HVAC systems. The first system will condition the truck bay, maintenance shop, and storage area. The second HVAC system will condition the office areas of the new building.

3.8.5 Energy Compliance

The building mechanical will comply with the energy compliance as stated in section 3.3.2; in addition, to the latest California Build Energy Efficiency Standards for Residential and Nonresidential Buildings and Green Building Standard code.

3.9 Fire Protection

Fire protection is not included with this project.

3.10 Instrumentation and Control

3.10.1 Operational Technology (OT) Architecture

The existing SCADA system currently operates on Wonderware InTouch HMI and Historian running on a single desktop computer. While functional, this configuration poses significant risks to resiliency, offers limited scalability, and does not meet the requirements of a modern, security-hardened control system capable of remote monitoring and control. To address these challenges, this project will upgrade the plant control system infrastructure with a robust, hyperconverged architecture, enterprise-grade networking, and enhanced security measures to enable safe remote access. The new system will include hyperconverged servers, core and access-level Ethernet switches, and a comprehensive security stack. Collectively, these components will form what is often referred to as a private cloud.

A private cloud is an on-premises infrastructure that will deliver cloud-like capabilities—such as virtualization, centralized management, and scalability—within a secure, controlled environment. For OPUD, this approach will provide modern operational technology (OT) benefits while maintaining strict security and operational reliability. The architecture will include Nutanix Hyperconverged Infrastructure

(HCI) with the Acropolis Hypervisor (AHV) as the virtualization layer. This integrated solution will consolidate compute, storage, and virtualization into a unified platform, reducing complexity, improving resilience, and supporting high availability for critical SCADA workloads.

The network design will include Fortinet Core Switches at the backbone, providing high-speed, redundant connectivity between Nutanix nodes and security appliances. The design will eliminate the distribution layer for simplicity and cost efficiency. At the edge, Fortinet Access Switches—ruggedized for field environments—will connect SCADA devices, sensors, and operator terminals. VLAN segmentation and secure tunneling will ensure data integrity from field devices to the core. Security will be enforced through FortiGate Next-Generation Firewalls. Nutanix Prism will provide cluster management, while Windows Server services will handle domain control and patching.

The SCADA application layer will include Ignition Perspective HMI, delivering a modern, web-based interface for operators. Ignition will provide seamless integration for mobile web applications, enabling secure remote access from tablets and smartphones without requiring additional software. This will allow operators and supervisors to monitor and control plant processes from anywhere with proper security controls in place. Additionally, Ignition's built-in alarm notification system will replace legacy solutions such as AVEVA Alarm Dialer and Win-911, consolidating alarm management and notifications into a single, unified platform. This approach simplifies configuration, reduces licensing costs, and ensures consistent alarm handling across the entire system.

This design will provide high availability, secure segmentation, and field-ready connectivity while maintaining compliance and operational integrity for critical SCADA workloads. It will position the Wastewater Utility for future growth, improved reliability, and enhanced cybersecurity.

The following is a list of anticipated servers that will be implemented.

- Ignition Perspective HMI Servers (Primary & Failover)
- Historian Servers (Primary & Secondary)
- Domain Controllers (Redundant Pair)
- DNS/DHCP Servers
- Patch Management Servers
- Backup Servers
- Monitoring Servers
- Certificate Authority Servers
- Jump Host / Bastion Servers
- Thin Clients for Operator Workstations
- Nutanix Cluster Nodes (Hypervisors running AHV)

3.10.2 Coordination with Remote Sites

The new private cloud infrastructure will not only replace the existing single desktop computer currently used for SCADA operations at the WWTP but will also serve as the centralized control and monitoring platform for four new remote sites: Pump Station 2, Pump Station 21, Olive Avenue Automatic Control Valve Station, and Mary Avenue Automatic Control Valve Station. By consolidating these locations into a unified architecture, the system will provide secure, real-time data exchange, centralized alarm management, and consistent operator interfaces across all sites. This approach ensures improved reliability, streamlined operations, and enhanced visibility of the entire wastewater network from a single, secure platform. In addition, this same platform can be leveraged in the future to replace the existing Mission Communications monitoring system, offering more comprehensive, feature-rich, and secure remote control capabilities across the utility's infrastructure.

3.10.3 Reference Standards

The following organizations have generated standards that will be used as guides in assuring quality and reliability of components and systems; govern nomenclature; define parameters of configuration and construction:

- Instrumentation, Systems and Automation Society (ISA)
  - ISA/IEC 62443
- National Institute of Standards and Technology (NIST)
  - SP 800-82
- Underwriters' Laboratories, Inc. (UL)
- American Water Works Association (AWWA)
- National Electrical Manufacturer's Association (NEMA)
- Occupational Safety and Health Administration (OSHA)
- American National Standards Institute (ANSI)
- National Fire Protection Association (NFPA)
- Scientific Apparatus Manufacturer's Association (SAMA)
- National Fire Protection Association (NFPA) 79, Annex "D" Standards
- Institute of Electrical and Electronic Engineers (IEEE)
- National Electrical Code (NEC)

3.10.4 Instrumentation and Controls Design

3.10.4.0 Local Control Stations

Controls mounted adjacent to the controlled equipment will be provided with a LOCAL/REMOTE selector switch and START/STOP pushbuttons. Valves will be provided with a LOCAL/REMOTE selector switch and OPEN/STOP/CLOSE pushbuttons. Local control stations will be provided at each piece of equipment controlled by an adjustable frequency drive (AFD). Local control stations for equipment with AFDs will also include a speed control potentiometer at the local control panel. The PLC will have no control over the equipment when LOCAL/REMOTE is in the LOCAL position.

3.10.4.1 Motor Control Center Controls

No controls will be provided on the MCC starters except the standard circuit breaker, hardwired interlocks, and the overload and hardwire interlocks reset. Status monitoring lights will be provided on the face of MCC buckets (e.g. High Pressure Interlock). AFDs will be connected to the PLC system via hardwired controls, including start/stop, run status, alarms, and speed control/feedback.

3.10.4.2 Safety Interlocks

Safety and equipment protection shutdown/lockout interlocks will be implemented through hardwired connection to the MCC. Personnel/ equipment safety and equipment protection will not be interlocked through the PLC or SCADA systems. Interlock logic will include a local RESET pushbutton at the MCC. When Lockout is performed on equipment, no LOCAL or REMOTE operation will be allowed, since LOCKOUT/disconnect switch will ensure control power is removed from all hardwired or automatic control logic.

3.10.4.3 Uninterruptible Power Supply

All critical control infrastructures will be provided with backup power during power failure transitions from an uninterruptible power supply (UPS). The UPS will provide a reliable source of uninterruptible power

with no break in output power during a complete or partial interruption of incoming line power. The UPS will be Underwriters Laboratories (UL) listed. UPS status (health) will be monitored by the SCADA system.

3.10.4.4 Communications

All communication links between PLCs involved in control will be continuously monitored to ensure system integrity. If communication is lost, the system will automatically transition to predefined safe operating modes to maintain process stability. Once communication is restored, normal operating modes will resume based on process requirements and safety considerations. Detailed restart procedures following any communication or power failure will be documented in the Process Control Descriptions.

The SCADA system will include integrated autodialer software and an external modem to immediately notify the on-call operator in the event of a critical alarm. Facility supervisors and operators will have the ability to define and manage which alarms are classified as critical, ensuring timely response to high-priority events.

3.10.4.5 Programmable Logic Controller Design Criteria

The Instrumentation and Control (I&C) system will utilize Allen-Bradley ControlLogix PLCs as the primary controllers for plant-wide process control. To maximize efficiency and leverage existing infrastructure, the design will include remote I/O racks that utilize the processing power of the new ControlLogix controllers already in place at the facility. This approach reduces hardware redundancy, simplifies wiring, and improves overall system performance.

The programming environment will use the current approved version of Studio 5000 Logix Designer (formerly RSLogix 5000) available at the start of PLC programming. The latest approved versions of firmware and software available at the start of programming will be installed on all controllers and I/O modules. This ensures compatibility, security, and access to the most recent performance enhancements recommended by Rockwell Automation. All SCADA-related software, including programming tools and runtime applications, will operate on Microsoft Windows 11 to provide a secure and modern environment.

For package systems such as the UV disinfection system, cloth disk filters, and other specialized equipment, CompactLogix PLCs will be deployed. These controllers are well-suited for standalone or subsystem control and will integrate seamlessly with the main ControlLogix platform via Ethernet/IP, ensuring consistent communication and centralized monitoring.

3.10.4.6 Environmental Conditions

This section describes the environmental conditions that will be applied to all components of the control systems as required.

- Classified Field Locations: Field equipment located in areas, which are classified as hazardous locations, as defined by National Fire Protection Association 820 - Standard for Fire Protection in Wastewater Treatment and Collection Facilities. The equipment located in classified areas will be designed to meet the classification of the area in accordance with the NEC, Class 1, Division 1 or Class 1, Division 2, as required.
- Corrosive Locations: The equipment located in areas that are subject to corrosive fumes or spills will be designed using materials for use in these corrosive areas. Corrosive area locations for PLCs, panels, etc., will be avoided wherever possible.
- Equipment Enclosures: All equipment enclosures will meet the following National Electrical Manufacturers Association (NEMA) requirements:
  - NEMA Type 12 General Purpose Indoor Areas (e.g. control rooms)

- NEMA Type 4X Outdoor Corrosive Areas or Indoor Corrosive Areas

3.10.4.7 Sunshields

All outdoor field instruments and panels will be equipped with sunshields to allow viewing of the displays and/or to shield the instrument enclosures from the heating effects of direct sunlight. In addition, outdoor instrument displays will be north-facing where possible to prevent direct sun exposure.

3.10.5 SCADA System Design

3.10.5.0 Control System Philosophy

All facility controls will allow automatic and manual control of the equipment and processes. If there is no automatic control logic for a given process, then the control will be manual only from the SCADA graphic displays or local control stations. Process control and alarm set points will be adjustable from the SCADA graphic displays. Local backup control will be provided for all facility equipment and processes.

3.10.5.1 SCADA Controls

When the local control station selector switch is set to REMOTE, the equipment will be provided with two control modes that are selectable from the SCADA graphic display: MANUAL and AUTOMATIC. In MANUAL, the equipment can be started and stopped manually from the graphic display. In AUTO, the equipment will be controlled according to the PLC programming; or, if there is no automatic control logic, then the control will be manual only from the SCADA graphic display. All control actions and modes will be password protected and given permissions for control based on "rights" assigned and managed by the SCADA system.

3.10.5.2 General Equipment Monitoring Requirements

Equipment status and selected operating modes will be displayed on the SCADA system. Individual equipment runtime will be accumulated, historically logged, and displayed by the SCADA system. An operator with the proper access rights will be able to individually (or group) reset these values via SCADA. Alarm contacts for equipment interlocking, alarming, and resetting will be provided as direct inputs to the PLC. Alarms will be annunciated via SCADA, but typically at local control stations and panels.

3.11 Electrical

3.11.1 Codes, Regulations, and Standards

- 2023 National Electrical Code (NEC)
- 2024 Life Safety Code (NFPA 101 HB85)
- International Fire Code
- 2023 National Electrical Safety Code (ANSI C2 2007)
- 2024 Standard for Fire Protection in Wastewater Treatment and Collection Facilities (NFPA 820)
- ANSI
- National Electrical Manufacturers Association (NEMA)
- Institute of Electrical and Electronic Engineers
- Instrument Society of America (ISA)
- Insulated Cable Engineers Association (ICEA)
- Occupational Safety and Health Administration
- ASTM

- Underwriters Laboratory (UL)
- Illuminating Engineering Society (IES)
- National Fire Protection Association (NFPA)

3.11.2 Overall Electrical Description

Electrical components and equipment that will be designed and constructed as part of this project include the following:

- Two New Inlet Screens at Headworks including controls
- 2 Grit chamber pumps
- One new grit classifier with new controls
- 5 new Influent Pumps with new variable frequency drives in facility 45 building fed from existing MCC 48 in existing spare conduit.
- One new Clarifier fed from existing MCC 48 and existing spare conduit.
- One new RAS pump and one new WAS pump each will be fed from existing MCC 48 in existing spare conduit.
- Two new filters with associated flow meters and flow control valves and two local control stations and new sample system for records and compliance.
- Installing new MCC-35 powered from facility 48 Switchgear for the following :
  - Replacing 4 mixers in biodigester #1
  - 2 new sludge transfer pumps
  - 4 new mixers in biodigester #2
  - 5 new mixers in biodigester #3
- 2 New pumps in overflow tank powered from facility 47
- 3 New UV channels powered from facility 47

3.11.3 General Design Criteria

Standard electrical materials will be provided in accordance with Jacobs standard specifications and client preferences.

3.11.4 Wire and Cable

Stranded copper conductors will be used for all wiring except lighting and receptacle wiring. Solid conductors No. 10 American Wire Gauge (AWG) and smaller will be used for lighting and receptacle wiring.

A minimum conductor size of No. 12 AWG will be used for power and lighting branch circuits. Type thermoplastic high heat-resistant nylon/thermoplastic heat and water-resistant-2 insulation will be used for No. 10 AWG and smaller conductors (conduit will be sized for type thermoplastic, heat- and water-resistant conductors). Type XHHW-2 insulation will be used for No. 8 AWG and larger conductors (conduit will be sized for thermoplastic, heat-resistant, and water-resistant conductors). Sixty-degree Celsius conductor ampacity ratings will be used for sizing conductors No. 1 AWG and smaller. Seventy-five-degree Celsius ratings will be used for sizing conductors larger than No. 1 AWG. A minimum conductor size of No. 14 AWG will be used for individual 120-V control circuits. A minimum conductor size of No. 12 AWG will be used for 120-V control circuits routed in a common conduit with the power conductors to the motor

circuit controls. Combining individual motor power and control conductors in a common conduit will be done up to a maximum power conductor size of No. 2 AWG.

Conductors and control cables will be tagged with a permanent sleeve or nylon marker plate attached with a nylon strap. Conductor tags with approved tag numbers will be provided by the contractor and will be located at each termination and in accessible locations. 120-V control circuits will be combined in control cables containing multiple No. 14 AWG stranded copper conductors with type thermoplastic high heat-resistant nylon insulation and a common PVC outer jacket.

A 600-V multi-circuit control cable will be used where grouping control circuits is practicable, and the number of individual wires exceeds six conductors. When selecting control cable size, 25% spare (plus or minus 10%) conductors will be used.

Low-voltage status/control 24 V and analog signal circuits will be routed in 600-V single -twisted shielded-pair instrumentation control cables. The cables will consist of No. 16 AWG stranded copper conductors with combination PVC and nylon insulation, drain wire, shield, and PVC outer jacket. Signal circuits will be combined in multi-twisted shielded-pair instrumentation control cables with common overall shield. The cables will consist of No. 16 AWG stranded copper conductors with a combination PVC and nylon insulation, pair and common drain wires, pair and common shields, and PVC outer jacket. Instrumentation control cables will be in accordance with Instrument Contracting and Engineering Association S-82 552.

Low-voltage status/control and analog signal circuits will not be routed in the same control cable or conduit with 120-V control or power circuits. Low-voltage status/control and analog signal circuits will be routed in the same conduit but not in the same control cable.

Adequate separation of power and I&C wiring will be provided to avoid signal interference. Long parallel runs will be avoided, and analog wiring will be installed in steel conduit.

3.11.5 Equipment Identification

I&C piping and instrumentation diagram (P&ID) tag numbers will be used for motors, I&C devices, and other process equipment shown on electrical drawings. This same numbering method will be used to create unique tags for major electrical distribution equipment.

3.11.6 Listed and Labeled Equipment

Electrical equipment, materials, or services to be provided will have an attached label, symbol, or other identifying mark of an organization that is concerned with product evaluation, compliance with appropriate standards, and performance of the equipment. Typically, this is the UL label or listing. In situations where a UL label or listing cannot be provided for equipment because of a lack of UL standards, then testing will be performed by an organization that is acceptable to the authority having jurisdiction.

3.11.7 Electrical Equipment

The following summarizes the NEMA categorization for equipment locations:

- NEMA 1 enclosures will be used for equipment in electrical rooms and finished areas.
- NEMA 12 enclosures will be used for electrical equipment in dry industrial locations.
- NEMA 4X enclosures will be used for outside and in wet or corrosive locations.

3.11.8 Lighting

Interior and exterior areas will be provided with lighting. Interior lighting will include switched lights, continuously on lights, emergency egress standby lights, and exit lights. Emergency standby and exit lights will each include a battery charger and battery.

Exterior lighting will include photocell-controlled lights mounted on the building north side. Pole mounted lights will be provided on or near the structures to illuminate any equipment. Site lighting will be controlled by photocell for automatic control and a light switch at each location. The circuit will be configured so the light(s) will be available to turn on automatically at dusk and turn off automatically at dawn. The light switch will override the photocell to turn the light on during the day. Dark sky lights will be selected to minimize nuisance lighting to neighbors as applicable

3.11.9 Distribution Voltage

The plant has a 480VAC power distribution from a central Switchgear Main Tie Generator with a utility feeding a 4000A main, and a 750KW Standby Generator. arranged with Main Tie Main for each MCC.

3.11.10 Voltage Drop

Voltage Drop will be considered and accommodated as needed per NEC at 3% for feeders and not Exceeding 5% overall.

3.11.11 Panelboards

3.11.12 Switchgear & Motor Control

Switchgear and MCCs are from Schneider Square D, all new equipment will be powered from existing space in the existing MCCs with the exception on the new MCC-35, this will be by Schneider also to keep like systems and suppliers.

3.11.13 Equipment Identification

Instrumentation and control piping and instrumentation diagram tag numbers will be used for motors, instrumentation and control devices, and other process equipment shown on electrical drawings. This same numbering method will be used to create unique tags for major electrical distribution equipment.

3.11.14 Distribution System Equipment

Distribution equipment criteria include the following:

3.11.15 Raceway Systems

We will be using existing spare conduit in the raceways previously installed were adequate spares exist, in a few areas where not adequate we will install new control and power raceways and manholes as needed. Raceways will be arranged with consideration for existing yard piping and will have typically 2 feet of cover.

3.11.16 Circuit Identification

Circuit identification will be provided as follows:

- Each Conduit will have a unique identifier from source to equipment or and manhole.
- Circuits, will have an identifier attached to each end of the conductor or cable, this unique identifier will indicate where the other end of the cable or conductor is terminated.

4. Construction Cost Estimate

The cost estimate prepared for this Project Definition Report is a Class 5 estimate as defined by the Association for the Advancement of Cost Engineering International (AACEI) with an assumed accuracy of -50% to +100%. For the development of this cost estimate, there may be systems that have yet to be defined enough on which to base a scope of work for estimating purposes. The cost estimate is based on the use of conceptual and stochastic costs and detailed items. The estimate uses parametric costing where design information or details are insufficient to allow a detailed item method. Cost resources include R.S. Means data, Jacobs historical data, vendor quotes, and estimator judgement. As the design process progresses, and the details have increased, the parametric costing can be replaced with detailed takeoff and estimated accordingly.

The cost estimate excludes the following costs:

- Hazardous Material Handling or Disposal
- Permitting costs
- Non-construction or soft cost for design, services during construction, land, legal and owner administration costs
- Material adjustment allowances above and beyond what is include at the time of the cost estimate

The estimate is based on the assumption the work will be done on a competitive bid basis and the contractor will have a reasonable amount of time to complete the work. All contractors are equal, with a reasonable project schedule, constructed as under a single contract, no liquidated damages.

The cost estimate assumes the following assumptions:

- Headworks Improvements
  - FURNISH Perforated Mechanical Screens w/ Compactor (Saveco Quote 3/28/25) - $811,500 per lot
  - FURNISH Grit Classifier w/ two Cyclones and Pump (Ovivo budgetary quote 3/13/25) - $349,000 per lot
- Influent Pump Station Improvements
  - FURNISH Vertical Pedestal Chopper Pump, 20 HP w/ motor (Vaughan Quote 11/20/25) - $21,595 per pump
  - FURNISH Vertical Pedestal Chopper Pump, 60 HP w/ motor (Vaughan Quote 11/20/25) – $52,335 per pump
- Oxidation Ditch Improvements
  - FURNISH Gearbox for Landy 7 w/ Coupling kit (WesTech Quote 9/5/2024) - $442,380 per lot
- Secondary Clarifier
  - FURNISH Clarifier Mechanism (WesTech Proposal 8/12/25) - $883,700 per lot
- RAS/WAS Pump Station Improvements
  - FURNISH RAS Pump (DXP Budgetary Quote) - $44,500 per pump
- Filter Influent Pump Station Improvements
  - FURNISH Submersible Pump (Xylem Quote 11/6/25) - $57,682 per pump

- Filtration System Improvements
  - FURNISH Discfilter systems (Veolia Proposal 10/23/25) - $1,134,000 per lot
  - FURNISH Disc Media Replacement (Veolia Proposal 10/23/25) - $216,000 per lot
- Ultraviolet Disinfection Improvements
  - FURNISH Wedeco Duron 8 System (Xylem 10/28/25) - $2,060,000
- Utility Water Pump Station Improvements
  - FURNISH Vertical Turbine Pump (Floway 9/4/25) - $98,173 per pump
- Aerated Solids Storage Ponds Improvements
  - FURNISH Floating Surface Aerators, 50 HP (Komline Quote 6/13/25) - $162,000 per lot
  - FURNISH Floating Surface Aerators, 50 HP (Komline Quote 10/15/25) - $243,000 per lot
  - FURNISH Rotary Lobe Pump (DXP Quote 6/11/25) - $62,937 per pump
  - FURNISH Self Priming Diesel Pump (DXP Budgetary Quote 12/23/25) - $69,823 per lot
- Flow Equalization Basin Pump Station
  - FURNISH Axial Propeller Pump (DXP Quote 12/18/25) - $131,074 per lot

It is assumed the project will be procured using the traditional Design/Bid/Build method. The general contractor will contract directly with the owner. Table 4-1 provides markups used in cost estimate.

Table 4-1. Markups, Taxes, and Other Indirect Costs

Item	Unit	Value
Location Factor	0%	
Material Tax Allowance	2.5%	
Sales Tax	9.0%	Applied to equipment items
Mobilization/Demobilization	5.0%	
General Conditions	6.0%	
Home Office Overhead	10.0%	
Profit	5.0%	
Bonds & Insurance	2.17%	
Design Contingency	20%	
Escalation	8.3%	1.75 years at 4.75% per year

4.1 Disclaimer

The opinions of the cost (estimates) shown, and any resulting conclusions on the project financial or economic feasibility or funding requirements, have been prepared for the guidance in project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the project and resulting feasibility will depend on the actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors.

The economic repercussions of the current global market volatility due to the pandemic, supply chain issues, labor shortages, and international conflicts, have not been fully accounted for within this estimate. The current bidding environment is volatile and unpredictable which could result in significantly higher bid prices or longer schedules that presented herein.

As a result, the final project costs will vary from the opinions of the cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budget to help ensure proper project evaluation and adequate funding.

4.2 Cost Estimate Results

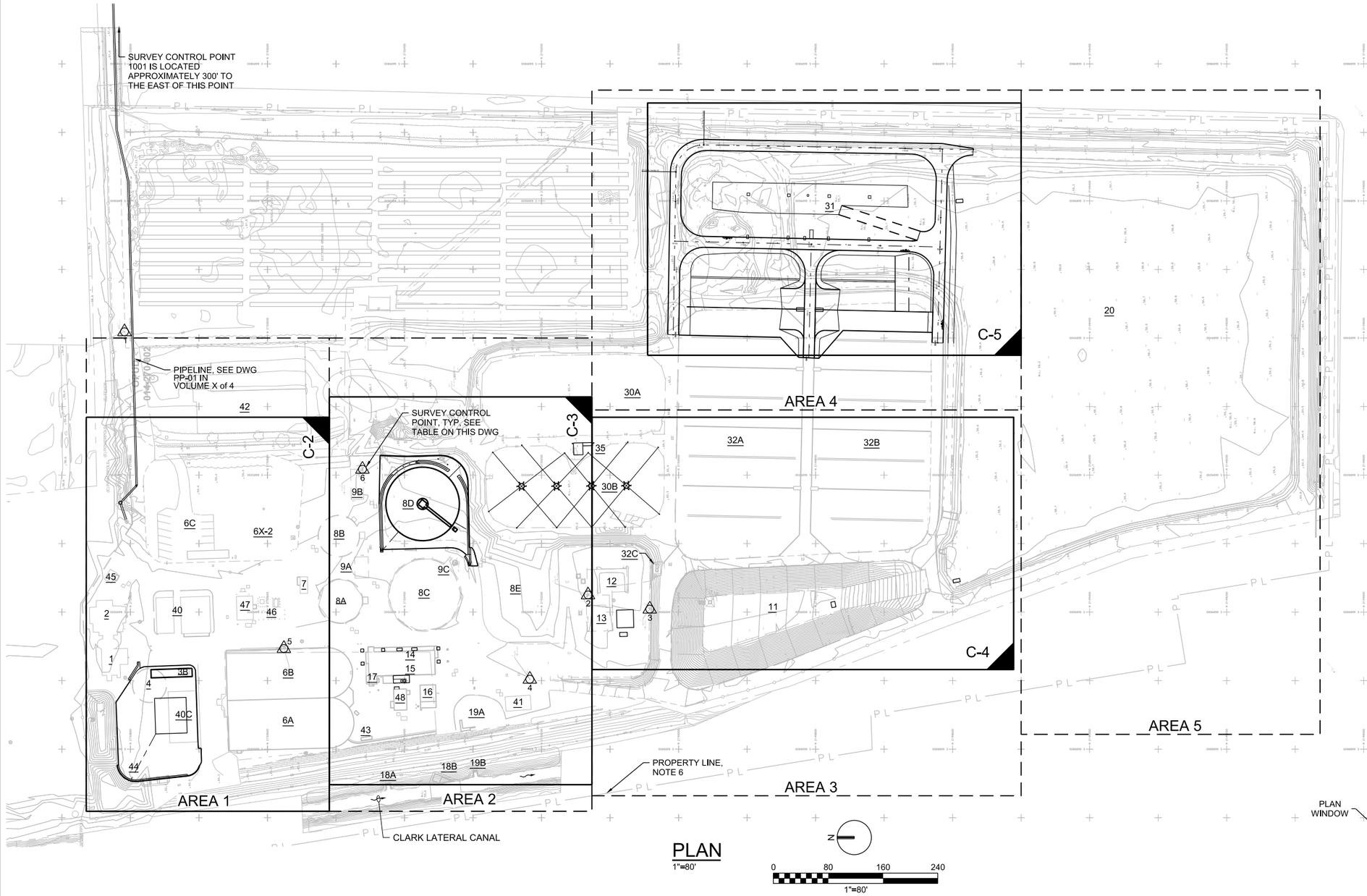
Table 4-2. Estimate Summary

Description	$ Amount
Site Work	870,000
Yard Piping	3,300,000
Headworks	3,050,000
Influent Pump Station	3,030,000
Oxidation Ditch	860,000
Secondary Clarifier	6,810,000
RAS/WAS Pump Station	340,000
Filter Influent Pump Station	770,000
Disk Filters	4,300,000
UV Disinfection	6,890,000
Utility Water	410,000
Solids Handling	4,710,000
FEB Pump Station	890,000
Building Renovation	610,000
Maintenance Building	1,490,000
SCADA Control	660,000
Total	38,990,000

5. References

CH2M HILL. 2007. OPUD Wastewater Treatment Plant Phase1A Expansion and Upgrade Record Drawings.

Appendix A
Site Plan



PLAN
1"=80'

N

0 80 160 240
1"=80'

NEW FACILITIES

8D	SECONDARY CLARIFIER
31	AEROBIC DIGESTER 3
35	DIGESTED SLUDGE PUMP STATION
40C	MAINTENANCE SHOP

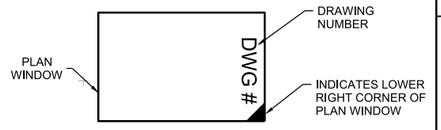
MODIFY EXISTING FACILITIES

2	INFLUENT PUMP STATION
3B	PRIMARY EFFLUENT DISTRIBUTION BOX (DEMOLISH)
4	PRIMARY CLARIFIER (DEMOLISH)
7	MIXED LIQUOR DISTRIBUTION BOX
9B	RAS/WAS PUMP STATION
13	TERTIARY FILTERS
14	ULTRAVIOLET DISINFECTION FACILITY
20	EMERGENCY STORAGE BASIN
30B	AEROBIC DIGESTER 2
32A/B	SLUDGE DRYING BEDS
40A	CONTROL BUILDING
40B	OPERATIONS BUILDING

EXISTING FACILITIES

1	HEADWORKS
6A/B	OXIDATION DITCHES
6X-2	AERATION BASIN (ABANDONED)
8A/B	SECONDARY CLARIFIERS (NOT IN SERVICE)
8C	SECONDARY CLARIFIER
9A	RAS/WAS PUMP STATION
9C	BIOFROTH PUMP STATION
11	FLOW EQUALIZATION BASIN
12	FILTER INFLUENT PUMP STATION
15	POST AERATION FACILITY
16	EFFLUENT PUMP STATION
17	UTILITY WATER PUMP STATION
18A/B	PLANT EFFLUENT DISCHARGE STRUCTURE
19A	STORMWATER BASIN PUMP STATION
19B	SITE DRAINAGE DISCHARGE OUTLET
30A	AEROBIC DIGESTER 1
32C	SLUDGE DRYING BED PUMP STATION
41	CHEMICAL STORAGE AND FEED FACILITY
42	MAINTENANCE BUILDING
43	HYDROPNEUMATIC TANK
44	POTABLE WATER WELL
45	ELECTRICAL BUILDING
46	STANDBY GENERATOR
47	ELECTRICAL BUILDING
48	ELECTRICAL BUILDING

LEGEND



NOTES:

1. TOPOGRAPHY SHOWN ON THESE PLANS NEAR THE WORK AREAS IS FROM FIELD SURVEY IN JUNE 2021, JANUARY 2022, AND NOVEMBER 2024 BY MHM INC. THE REMAINING SITE TOPOGRAPHY WAS PREPARED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 1-21-2004 AND HAS BEEN TRIMMED AND REPLACED WITH AS-BUILT INFORMATION FROM THE 2004 PLANT EXPANSION PROJECT WHERE OUTDATED. ADDITIONAL SITE FEATURES HAVE BEEN ADDED APPROXIMATELY FROM AERIAL IMAGERY PROVIDED BY MHM INC. EXISTING CONDITIONS MAY VERY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
2. COORDINATES ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83), CALIFORNIA STATE PLANE ZONE 2, US SURVEY FEET.
3. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) DATUM.
4. FOR INFORMATION ONLY: THE NAVD88 DATUM IS 2.29 FEET HIGHER THAN THE DATUM USED FOR THE 1975 AND 1990 WASTEWATER TREATMENT FACILITY IMPROVEMENTS DRAWINGS AND FEMA MAPS FOR THIS AREA (NGVD29). ADD 2.29 FEET TO ELEVATIONS SHOWN ON FEMA MAPS AND WASTEWATER TREATMENT FACILITY IMPROVEMENTS DRAWINGS TO OBTAIN EQUIVALENT NAVD88 DATUM ELEVATIONS.
5. LIMIT OF WORK IS AT PROPERTY LINE OR EXISTING FENCE.
6. PROPERTY LINE IS LOCATED APPROXIMATELY BASED ON THE NORTHEAST CORNER OF FENCE. DISTANCES REFLECT YUBA COUNTY ASSESSOR'S MAP DATA. BEARINGS WERE BASED ON A TITLE REPORT AS SHOWN BY LAUGHLIN AND SPENCE CIVIL ENGINEERS AND SURVEYORS ON THE PRELIMINARY SLUDGE POND LINER AND NEW DRYING BEDS DRAWINGS.
7. EXISTING SOLIDS LAGOON CONVERTED TO AEROBIC DIGESTER.

△ SURVEY CONTROL POINTS △

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2150808.65	6689409.05	60.30	FOUND MAG/WASHER
2	2150132.13	6689025.05	59.77	"X" IN CONCRETE
3	2150041.94	6689004.34	58.30	"X" IN CONCRETE
4	2150217.04	6688902.00	56.90	"X" IN CONCRETE
5	2150576.02	6688946.93	60.96	"X" IN CONCRETE
6	2150461.33	6689208.38	61.29	"X" IN CONCRETE
1001	2150835.75	6690111.70	62.64	SET MAG

REGISTERED PROFESSIONAL ENGINEER
BRANDY BRUSHETT-CHALFANT
CIVIL
LICENSE NO. C97042
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	APVD
DSGN	BRUSHETT-CHALFANT	DR	T PATTISON	CHK	B CHELONIS	APVD	K KENNEDY

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WHEATLAND OPUD
REGIONAL WASTEWATER TRANSMISSION AND TREATMENT FACILITIES PROJECT - PHASE 1
CONTRACT NO. 3: OPUD WWTP MODS

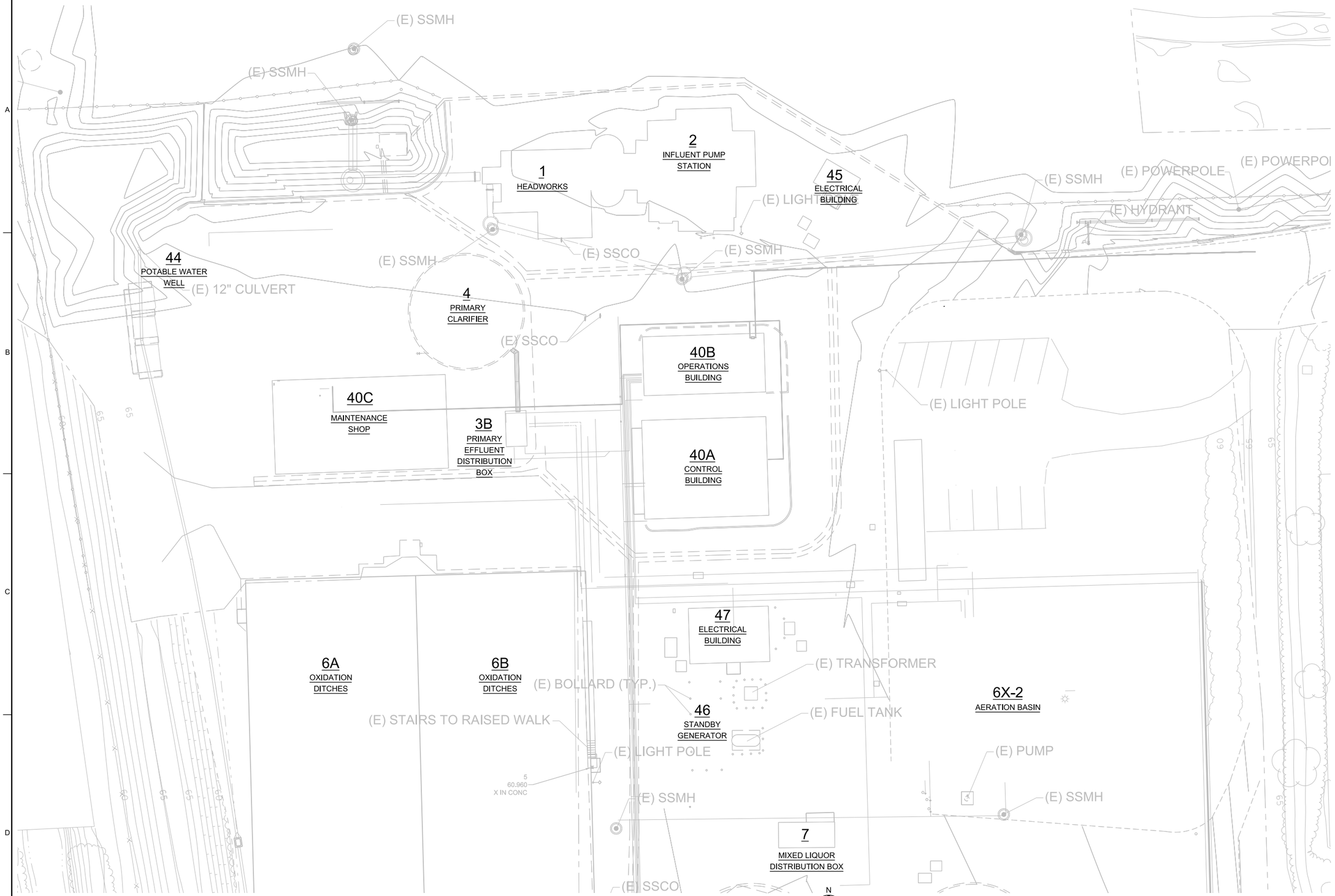
Jacobs

CIVIL
OVERALL SITE, SURVEY CONTROL AND KEY PLAN

PRELIMINARY - NOT FOR CONSTRUCTION

AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	SEPTEMBER 2025
PROJ	W8Y08100
DWG	C-1
SHEET	of



PLAN
1"=20'

REGISTERED PROFESSIONAL ENGINEER
BRANDY BRUSHETT-CHALFANT
CIVIL
LICENSE NO. C97042
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

NO.	DATE	DSGN	DR	CHK	APVD
		BRUSHETT-CHALFANT	N MCMULLIN	B CHELONIS	K KENNEDY

REVISION BY APVD

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CONTRACT NO. 3: OPUD WWTP MODS

Jacobs

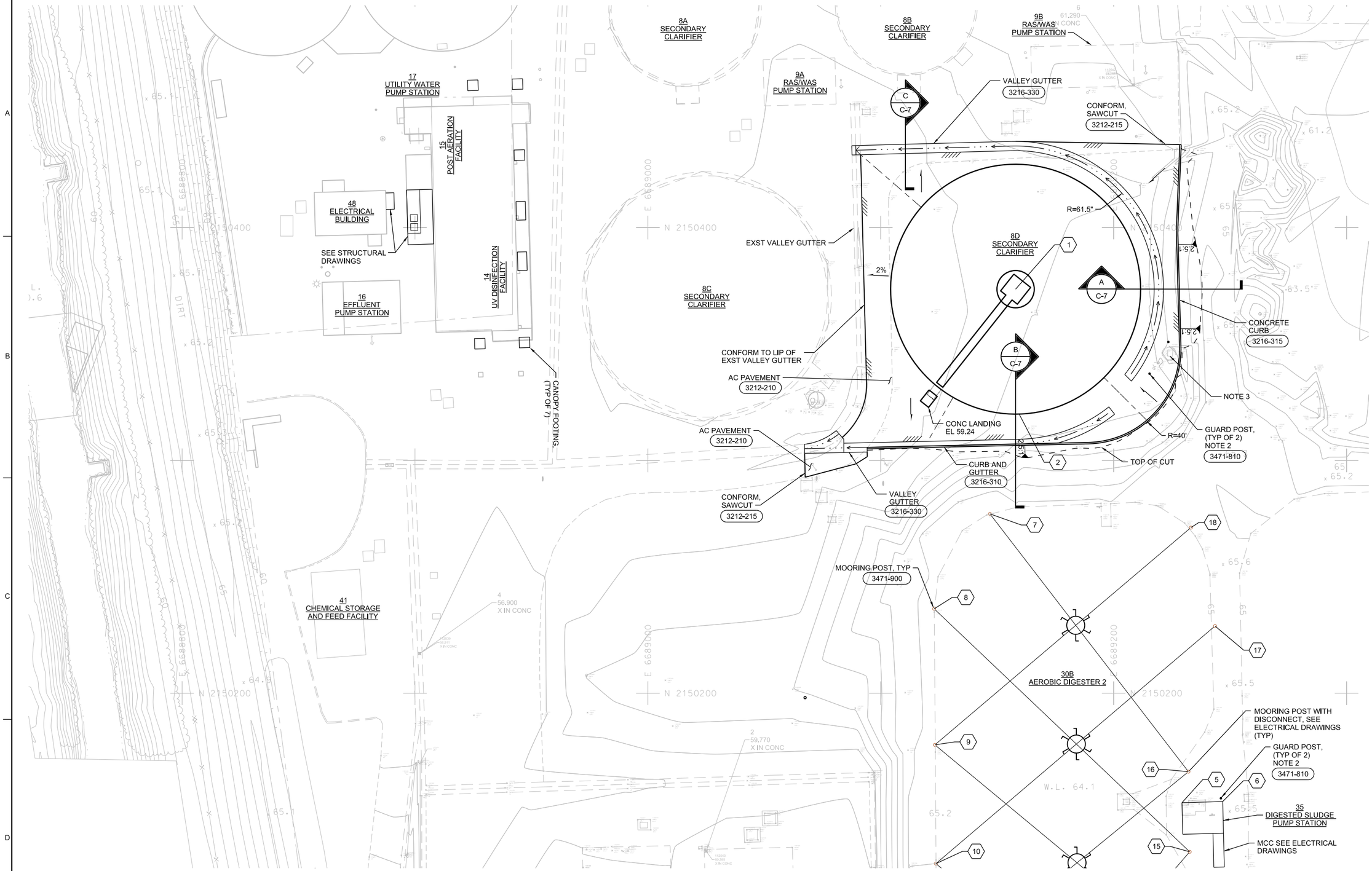
CIVIL

SITE PLAN
AREA 1

PRELIMINARY - NOT FOR CONSTRUCTION

AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	SEPTEMBER 2025
PROJ	W8Y08100
DWG	C-2
SHEET	of



NOTE:

1. FOR LAYOUT/GRADING POINT DATA, SEE TABLE ON DWG C-5.
2. LOCATE GUARD POSTS APPROXIMATELY AS SHOWN TO PROTECT EXISTING STAND PIPE.
3. EXISTING ELECTRICAL VAULTS , SEE ELECTRICAL PLANS.

PLAN
1"=20'

N

0 20 40 60
SCALE IN FEET

REGISTERED PROFESSIONAL ENGINEER
BRANDY BRUSHETT-CHALFANT
CIVIL
LICENSE NO. C97042
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	APVD
DSGN	BRUSHETT-CHALFANT	DR T PATTISON	CHK B CHELONIS	APVD K KENNEDY

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WHEATLAND OPUD
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PRELIMINARY - NOT FOR CONSTRUCTION

Jacobs

CIVIL
SITE PLAN AREA 2

	AS SHOWN
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
DATE	SEPTEMBER 2025
PROJ	W8Y08100
DWG	C-3
SHEET	of



PLAN
1"=30'

N

0 30 60 90
SCALE IN FEET

REGISTERED
PROFESSIONAL
ENGINEER
BRANDY
BRUSHETT-CHALFANT
CIVIL
LICENSE NO. C97042
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
DSGN	BRUSHETT-CHALFANT		T PATTISON	B CHELONIS		K KENNEDY	

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WHEATLAND OPUD
REGIONAL WASTEWATER TRANSMISSION AND TREATMENT FACILITIES PROJECT - PHASE 1
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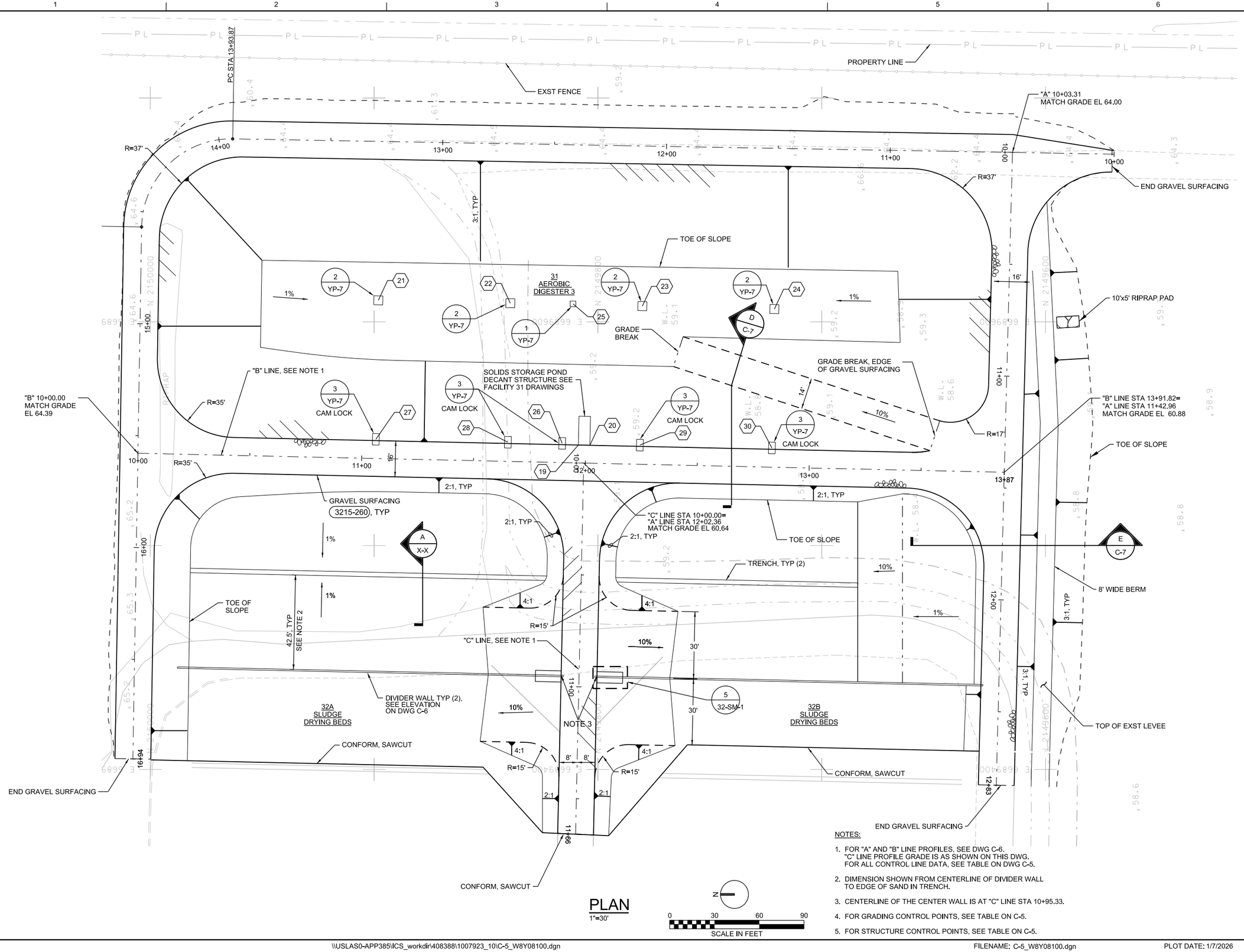
Jacobs

CIVIL
SITE PLAN
AREA 3

PRELIMINARY - NOT FOR CONSTRUCTION

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	SEPTEMBER 2025
PROJ	W8Y08100
DWG	C-4
SHEET	of



PLAN

1"=30'

NOTES:

1. FOR "A" AND "B" LINE PROFILES, SEE DWG C-6.
   "C" LINE PROFILE GRADE IS AS SHOWN ON THIS DWG.
   FOR ALL CONTROL LINE DATA, SEE TABLE ON DWG C-5.
2. DIMENSION SHOWN FROM CENTERLINE OF DIVIDER WALL TO EDGE OF SAND IN TRENCH.
3. CENTERLINE OF THE CENTER WALL IS AT "C" LINE STA 10+95.33.
4. FOR GRADING CONTROL POINTS, SEE TABLE ON C-5.
5. FOR STRUCTURE CONTROL POINTS, SEE TABLE ON C-5.

REGISTERED
PROFESSIONAL
ENGINEER
BRANDY
BRUSHETT-CHALFANT
CIVIL
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STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	APVD

DR T PATTISON CHK B CHELONIS APVD K KENNEDY

DSGN BRUSHETT-CHALFANT

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WHEATLAND OPUD
REGIONAL WASTEWATER TRANSMISSION AND TREATMENT FACILITIES PROJECT - PHASE 1
CONTRACT NO. 3: OPUD WWTP MODS

Jacobs

CIVIL
SITE PLAN
AREA 4

PRELIMINARY - NOT FOR CONSTRUCTION

AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	SEPTEMBER 2025
PROJ	W8Y08100
DWG	C-5
SHEET	of

Appendix G
EDU Review, Analysis Update, and "Buildout" Projections

Appendix G. Equivalent Dwelling Unit (EDU) Review and Update Analysis

G.1 Historical EDU Definition

As outlined in the *Master Plan for the Olivehurst Wastewater Treatment Plant* submitted in 2016 by CH2M, the definition of an equivalent dwelling unit (EDU) with relation to the Olivehurst Public Utility District (OPUD) wastewater treatment plant (WWTP) is the following:

- Flow: 260 gallons per day (gpd)
- Biological Oxygen Demand (BOD): 0.67 pounds per day (lbs/d)
- Total Suspended Solids (TSS): 0.50 pounds per day (lbs/d)

G.1.1 Current EDU Contribution

Analysis of EDU flows and mass loadings indicate a shift often attributed to increasingly strict water conservation regulations. These measures reduce wastewater contributions from new development. Therefore, the 2016 EDU definition is being reassessed to confirm if it still accurately represents OPUD's service area. Additionally, BOD and TSS load are typically more similar to each other than what was used in the 2016 Master Plan, as shown in Table 1. Operations staff provided influent flow, BOD, and TSS data for January 2019 through December 2024. The annual average conditions are shown in Table G-1.

Table G-1. Annual Average Influent Flow, BOD, and TSS

Year	Flow (MGD)	Influent BOD (lbs/d)	Influent TSS (lbs/d)	TSS/BOD
2019	1.81	3,230	3,000	0.93
2020	1.57	3,302	3,208	0.97
2021	1.54	3,505	3,267	0.93
2022	1.34	2,993	2,507	0.84
2023	1.79	3,662	3,144	0.86
2024	1.97	3,757	3,479	0.93
AVG	1.67	3,408	3,101	0.91

EDU counts for 2022 and 2025 were provided by OPUD. The change in EDU count between those years was assumed to occur at a constant rate of approximately 284 EDUs per year. This linear trend was extrapolated backwards to 2019 and forwards to 2024 to estimate intermediate yearly values. Table G-2 summarized the calculated EDU counts for the 2019-2025 period.

Table G-2. OPUD EDU Count

Year	EDU Count
2019 (calculated)	7,939
2020 (calculated)	8,223
2021 (calculated)	8,506
2022 (known)	8,790
2023 (calculated)	9,074
2024 (calculated)	9,357
2025 (known)	9,641

Note: The EDU increase from 2022 to 2025 equals 851. This is roughly equal to an annual increase of 284 EDU/yr.

Using the influent data provided by OPUD in combination with the EDU count shown in Table G-2, Flow per EDU, BOD load per EDU, and TSS load per EDU were graphed for each individual year. The graphs compare the daily or weekly values collected by OPUD with the 2016 Master Plan EDU definition and the recommended value of flow, BOD load, or TSS load per EDU for that year. The recommended values were chosen such that they encompassed most of the data points during the year, ignoring the impacts of wet-weather events. A summary of the results is shown in Table G-3. The graphs for each year are attached at the end of this document.

Table G-3. OPUD Recommended Flows and Loads per EDU (2019-2024)

Year	Recommended Flow per EDU (gpd)	Recommended BOD Load per EDU (lbs/d)	Recommended TSS Load per EDU (lbs/d)
2019	250	0.50	0.50
2020	240	0.55	0.50
2021	230	0.55	0.50
2022	200	0.40	0.45
2023	240	0.45	0.50
2024	240	0.50	0.50
2019-2024	**240**	**0.55**	**0.50**

Note: Values determined graphically for individual years

G.1.2 Recommended Future EDU Definition

It is anticipated that there will not be a significant change in the demographic of the OPUD service area (i.e new industries, restaurants, etc.). Therefore, the mass loading rates determined from the 2019-2024 data is likely to accurately represent future mass loading rates. However, as new residential constructions take place in Olivehurst and the City of Wheatland, it is likely that the flow per EDU will decrease. This is due to more efficient technologies, such as low-flow toilets, and an increased emphasis on water conservation.

For this reason, the recommended flow per EDU is roughly 10% lower than what was observed in 2019-2024. The recommended updated EDU definition is the following:

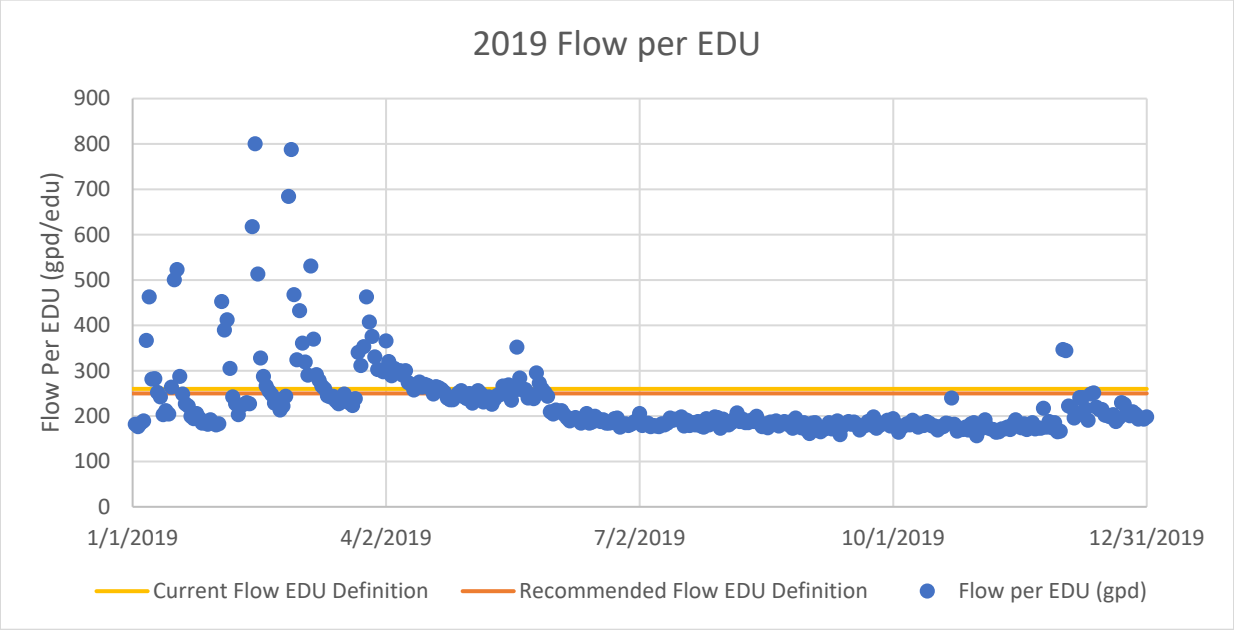
- Flow: 220 gallons per day (gpd)
- BOD: 0.55 pounds per day (lbs/d)
- TSS: 0.50 pounds per day (lbs/d)

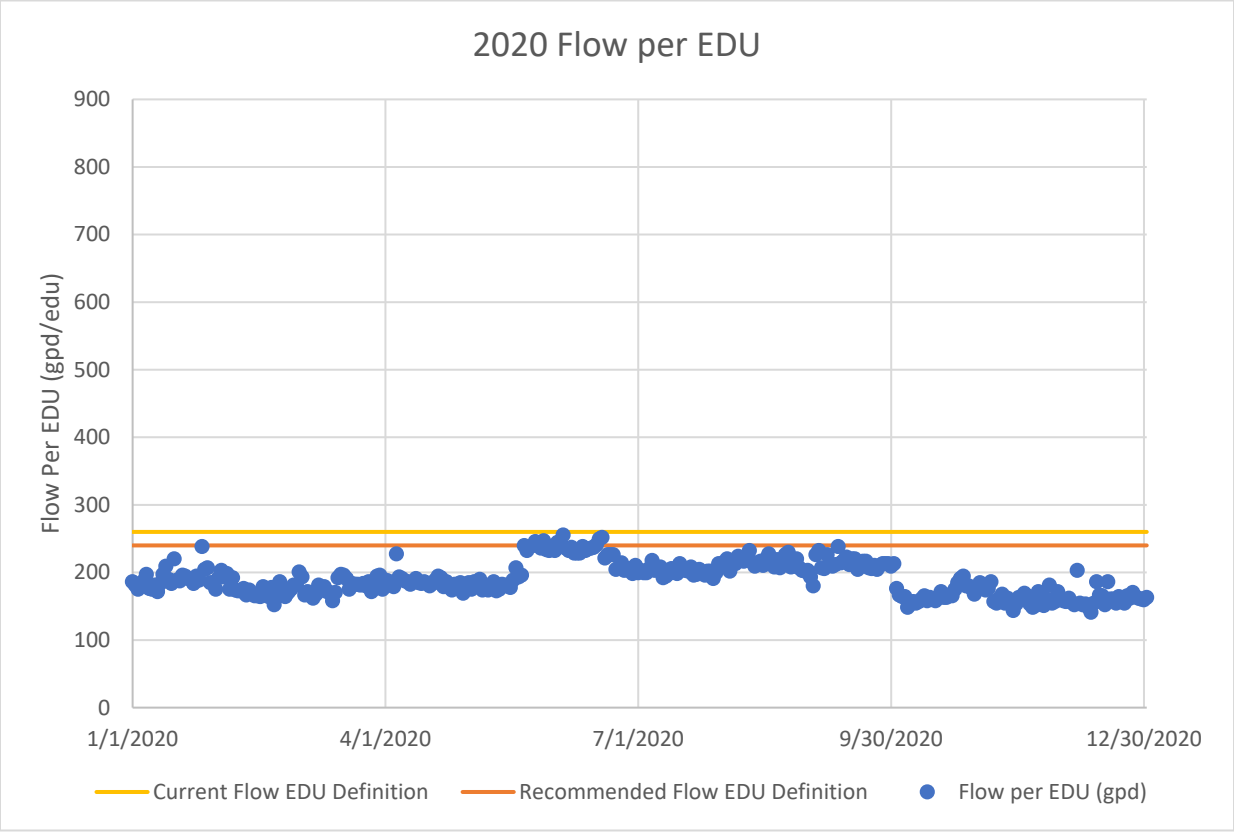
The resulting concentrations using the recommended EDU definition and the 2025 EDU count are shown in Table G-4. This is used to check that the BOD and TSS concentrations based on the recommended EDU definition are reasonable.

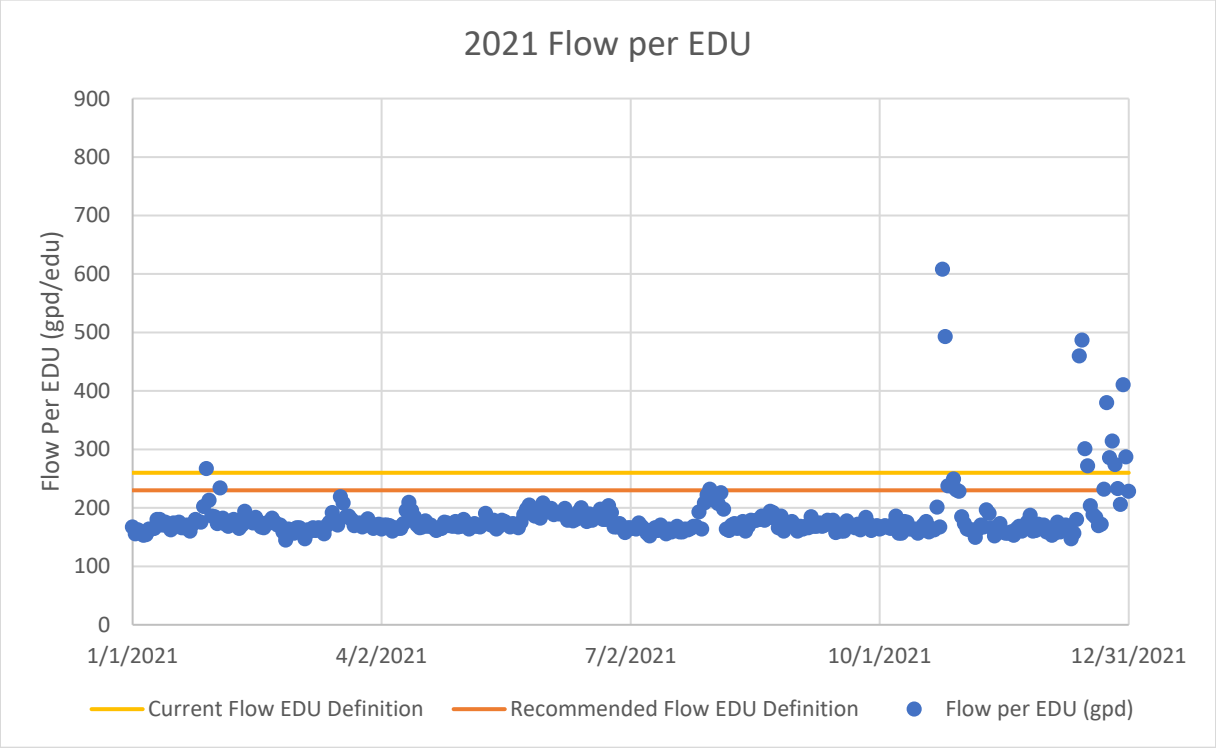
Table G-4. Equivalent BOD and TSS concentration

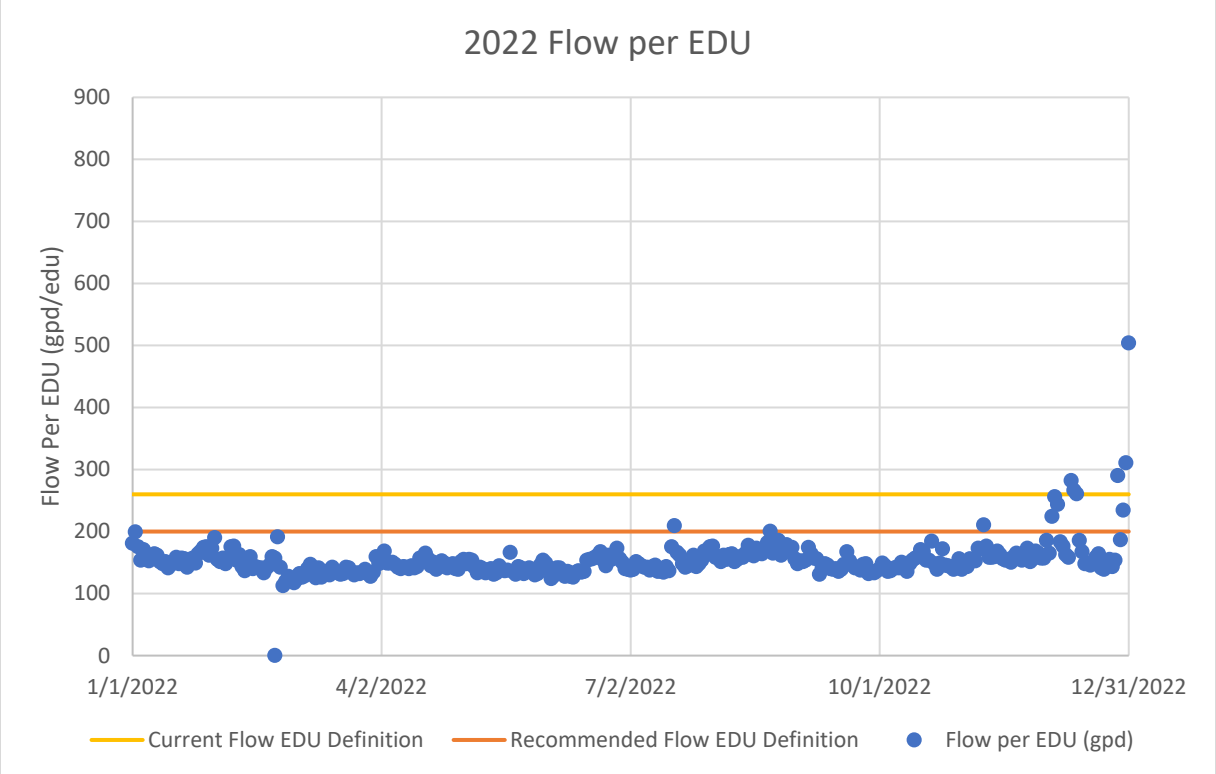
Flow (MGD)	BOD Load (lbs/d)	BOD conc (mg/L)	TSS Load (lbs/d)	TSS Conc (mg/L)	TSS/BOD
2.12	5,303	300	4,821	273	0.91

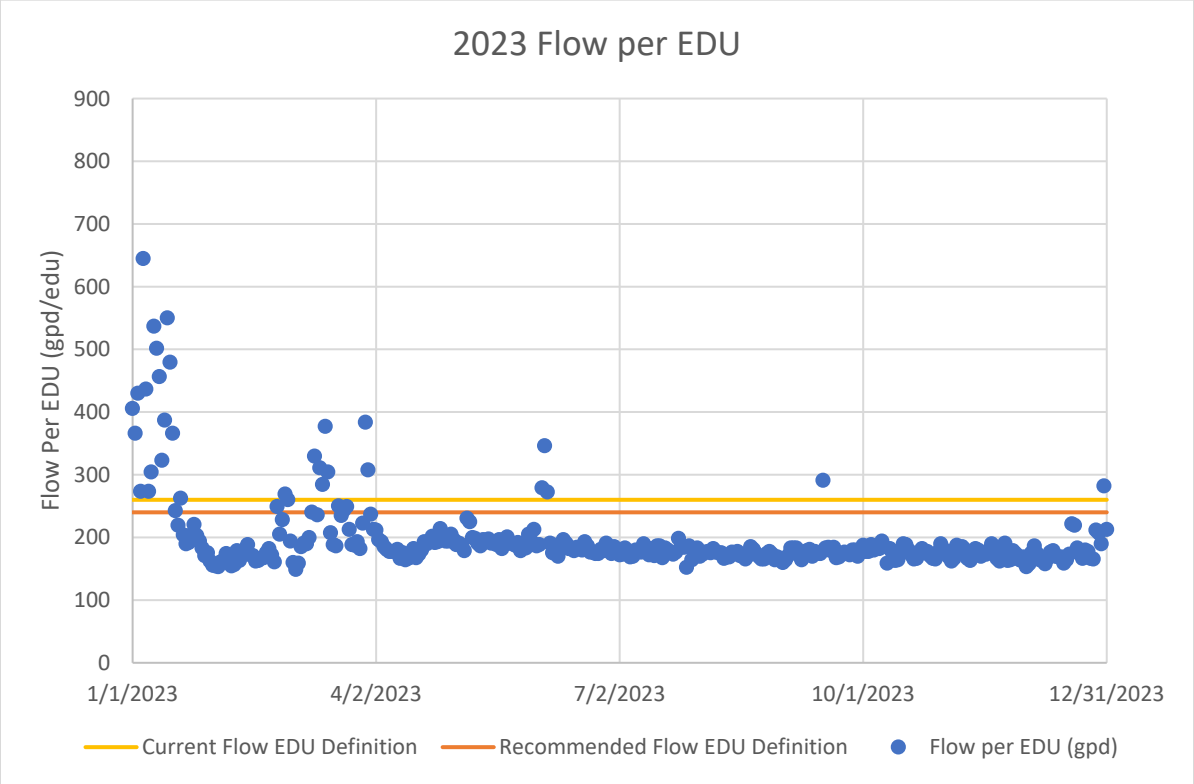
OPUD Flows per EDU by Year (2019-2024)

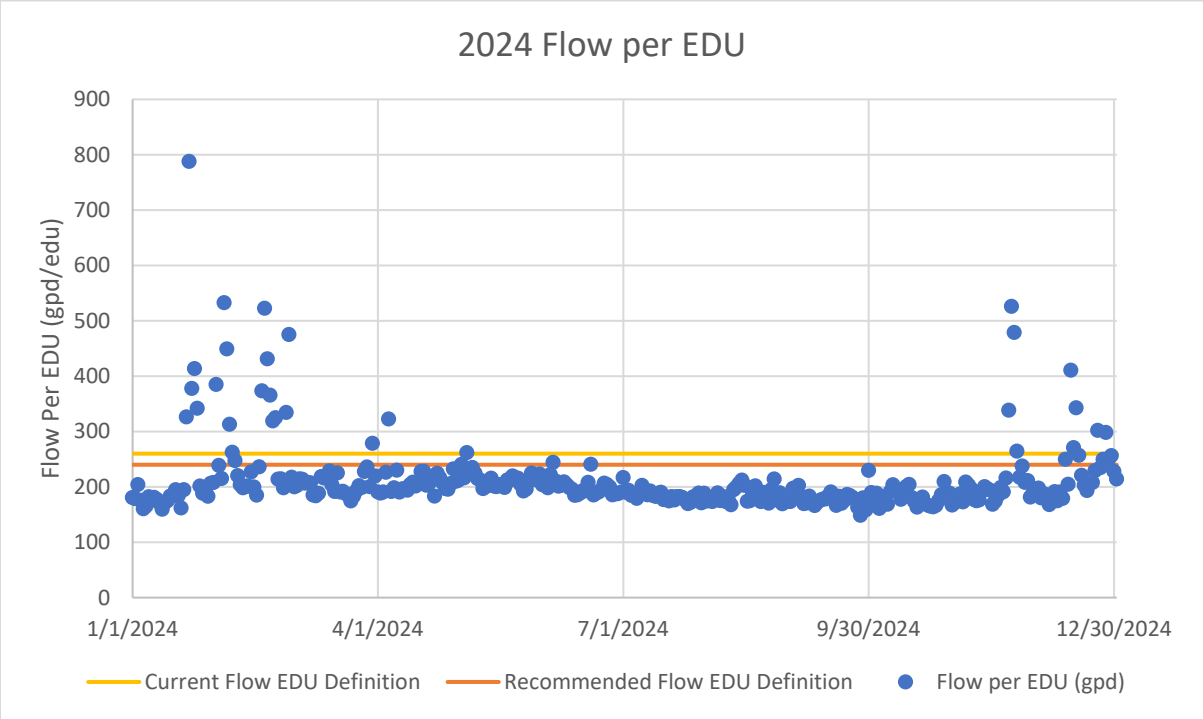


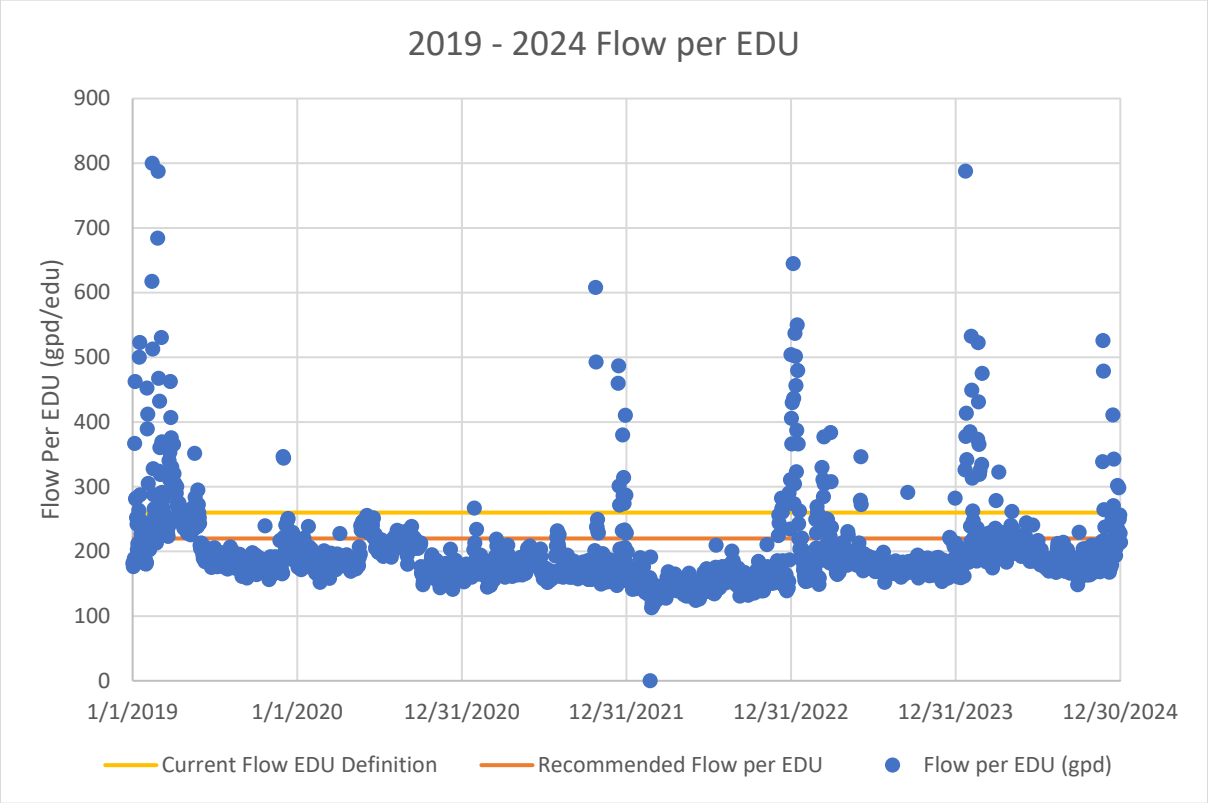



2021 Flow per EDU
Flow Per EDU (gpd/edu)
900
800
700
600
500
400
300
200
100
0
1/1/2021
4/2/2021
7/2/2021
10/1/2021
12/31/2021
Current Flow EDU Definition
Recommended Flow EDU Definition
Flow per EDU (gpd)

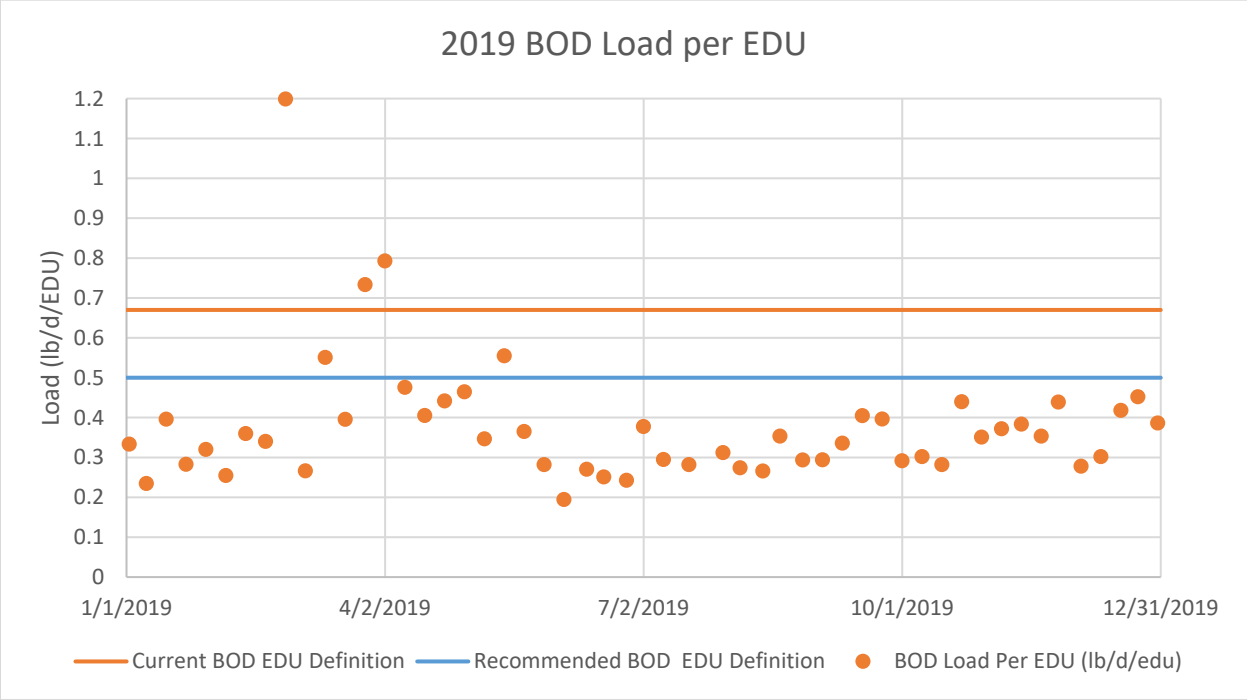

2022 Flow per EDU
Flow Per EDU (gpd/edu)
900
800
700
600
500
400
300
200
100
0
1/1/2022
4/2/2022
7/2/2022
10/1/2022
12/31/2022
Current Flow EDU Definition
Recommended Flow EDU Definition
Flow per EDU (gpd)

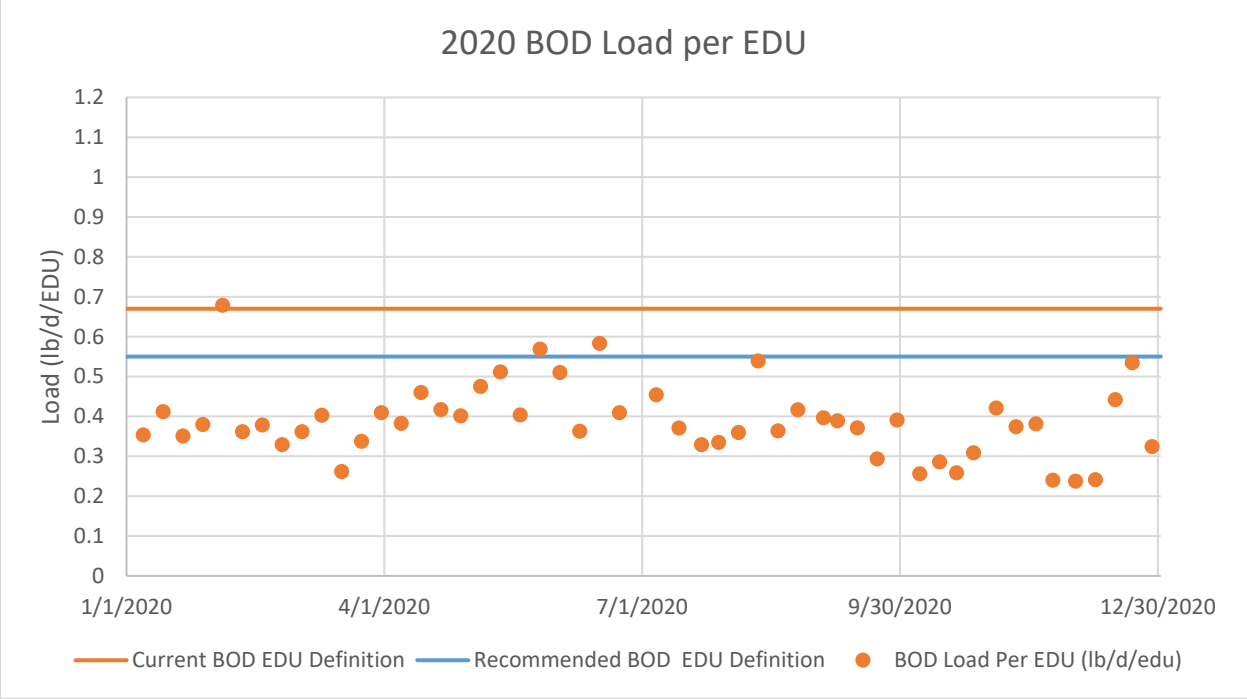

2023 Flow per EDU
Flow Per EDU (gpd/edu)
900
800
700
600
500
400
300
200
100
0
1/1/2023
4/2/2023
7/2/2023
10/1/2023
12/31/2023
Current Flow EDU Definition
Recommended Flow EDU Definition
Flow per EDU (gpd)

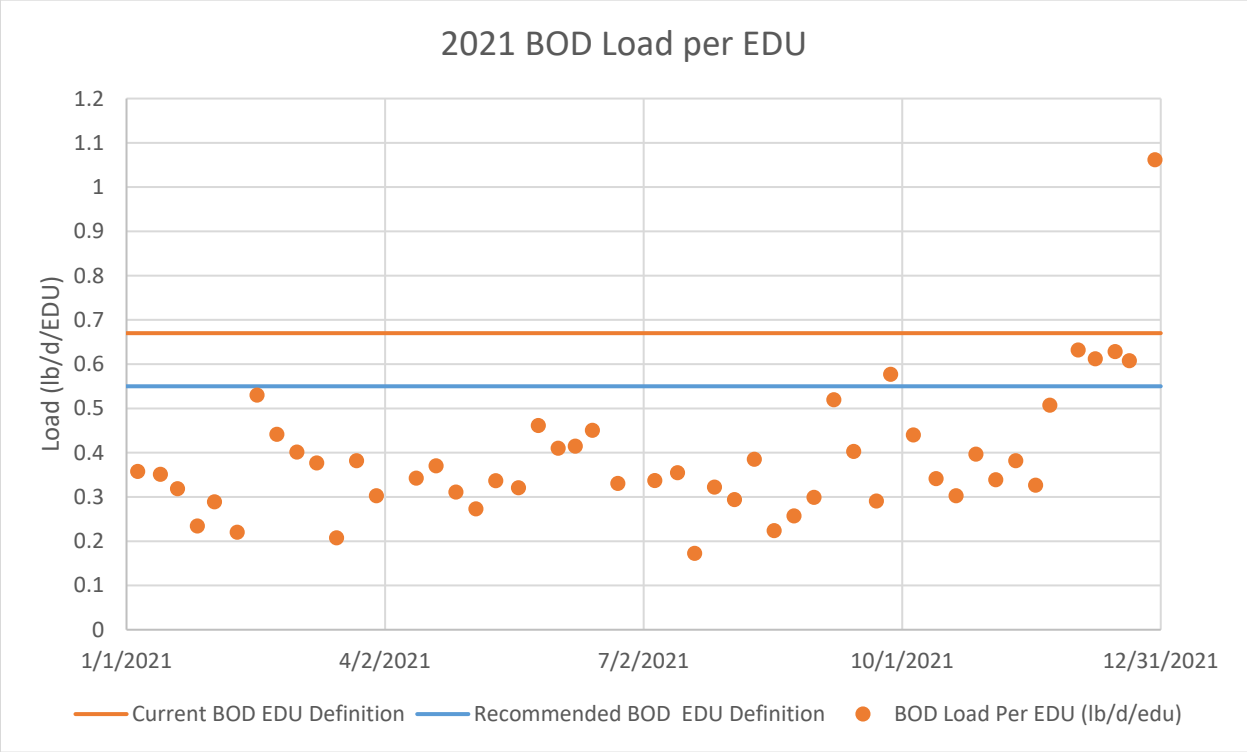

2024 Flow per EDU
Flow Per EDU (gpd/edu)
900
800
700
600
500
400
300
200
100
0
1/1/2024
4/1/2024
7/1/2024
9/30/2024
12/30/2024
Current Flow EDU Definition
Recommended Flow EDU Definition
Flow per EDU (gpd)

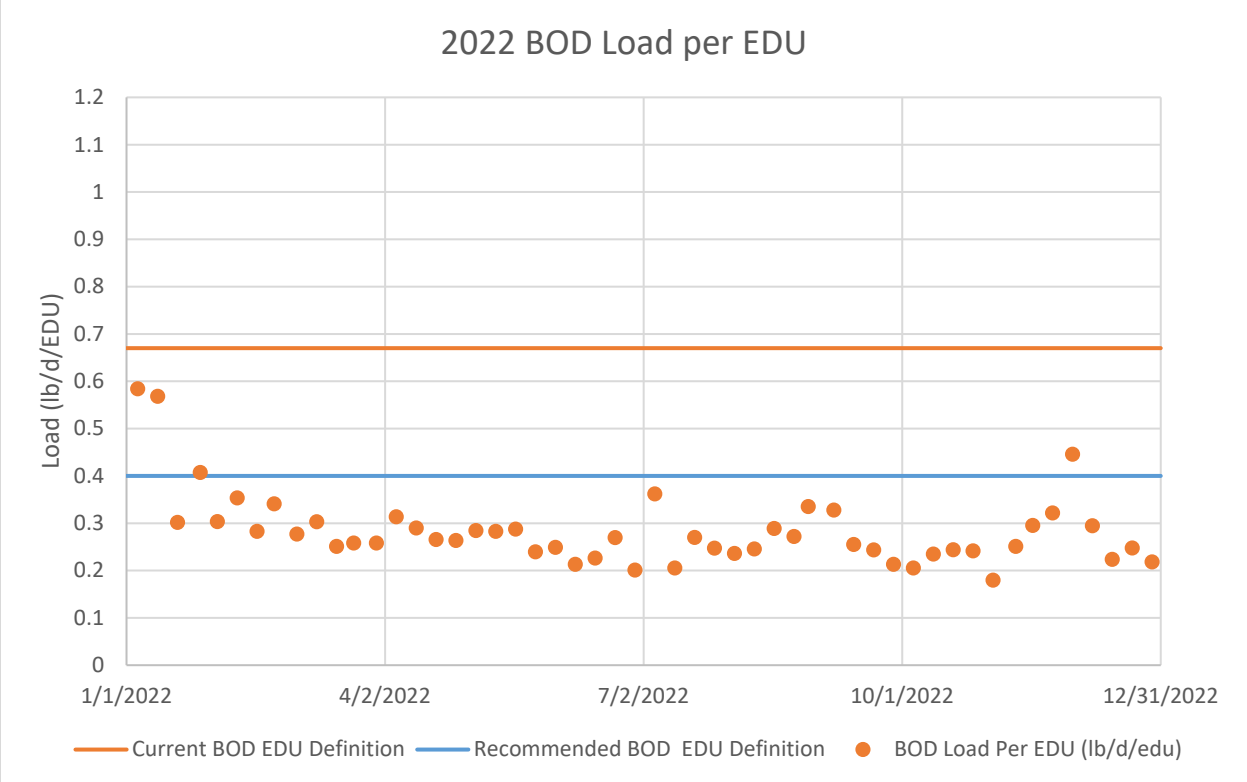

2019 - 2024 Flow per EDU
Flow Per EDU (gpd/edu)
900
800
700
600
500
400
300
200
100
0
1/1/2019
1/1/2020
12/31/2020
12/31/2021
12/31/2022
12/31/2023
12/30/2024
Current Flow EDU Definition
Recommended Flow per EDU
Flow per EDU (gpd)

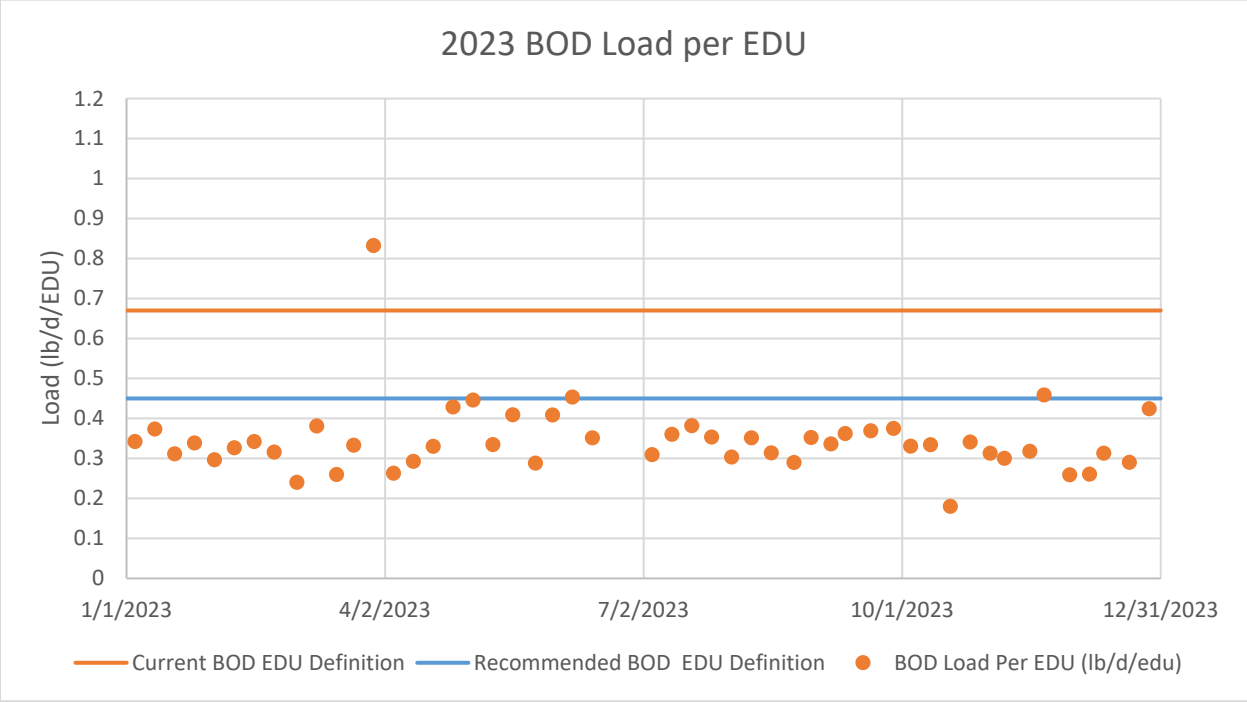
OPUD BOD Load per EDU by Year (2019-2024)

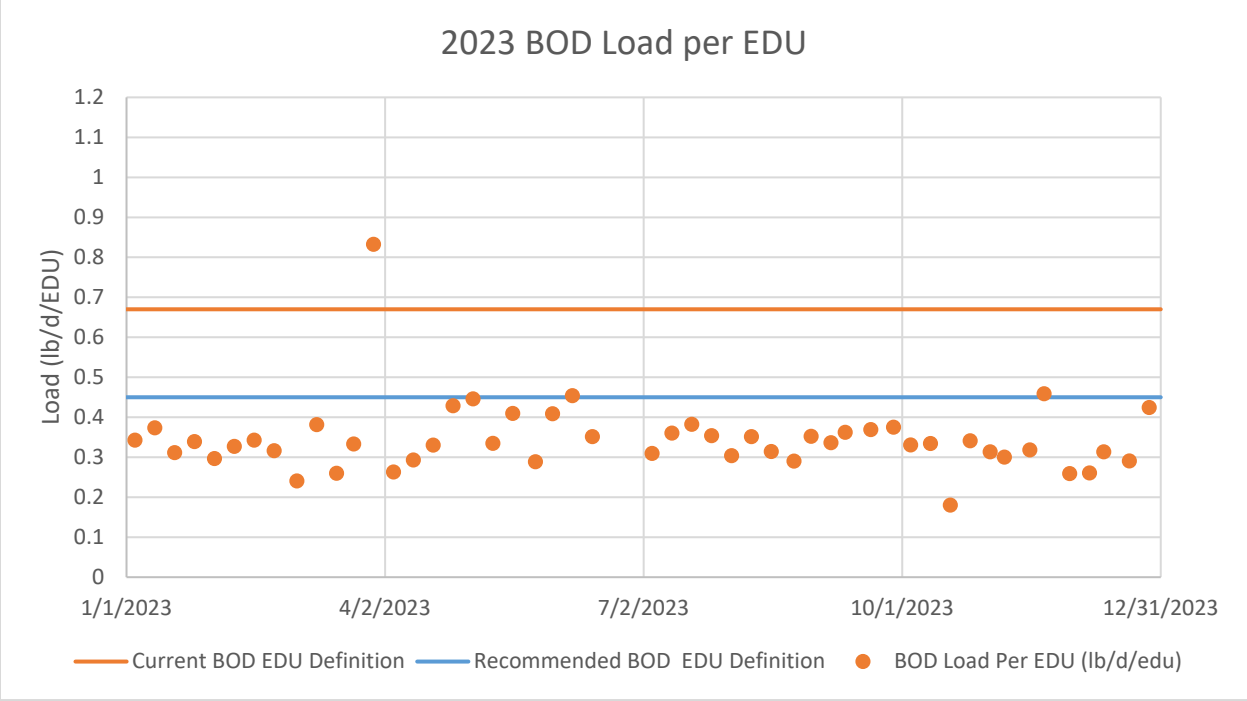


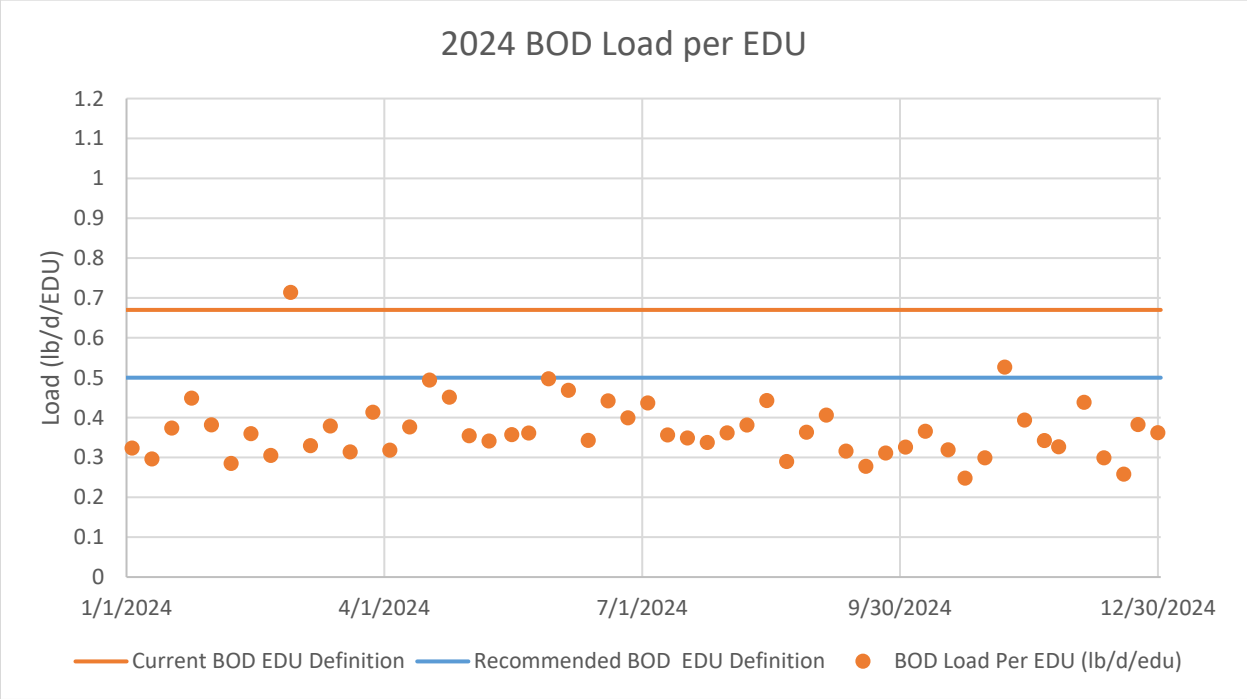


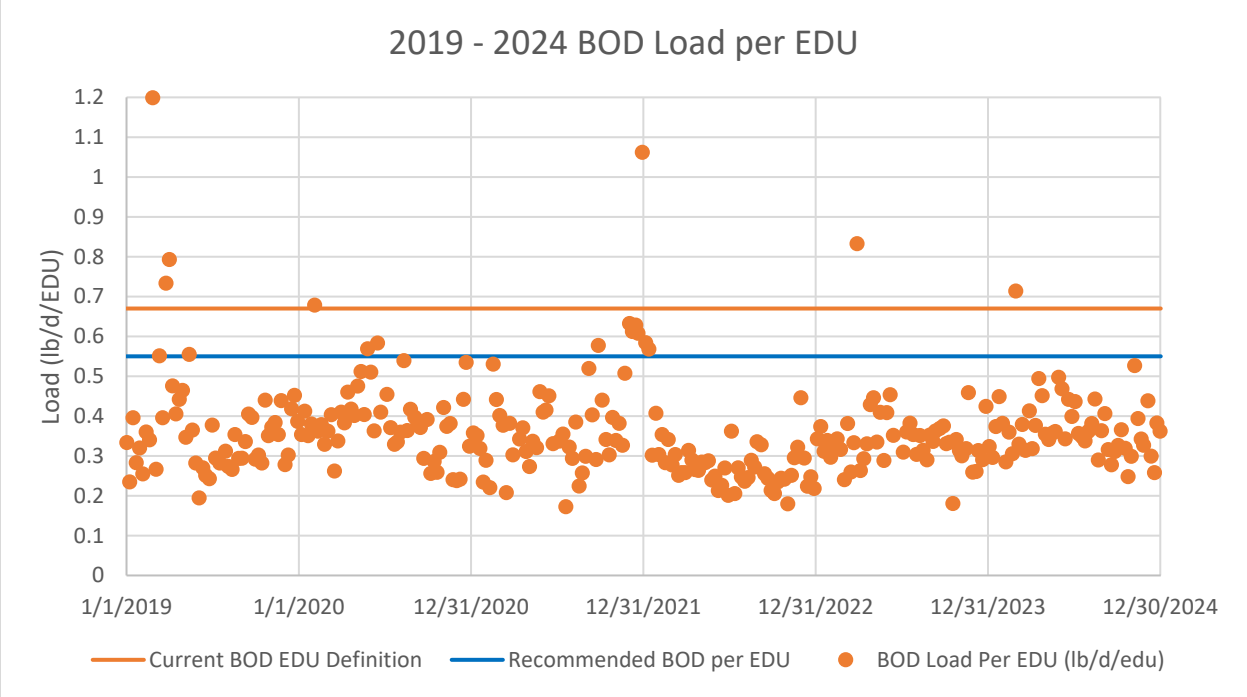

2021 BOD Load per EDU
Load (lb/d/EDU)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/1/2021
4/2/2021
7/2/2021
10/1/2021
12/31/2021
Current BOD EDU Definition
Recommended BOD EDU Definition
BOD Load Per EDU (lb/d/edu)


2022 BOD Load per EDU
Load (lb/d/EDU)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/1/2022
4/2/2022
7/2/2022
10/1/2022
12/31/2022
Current BOD EDU Definition
Recommended BOD EDU Definition
BOD Load Per EDU (lb/d/edu)

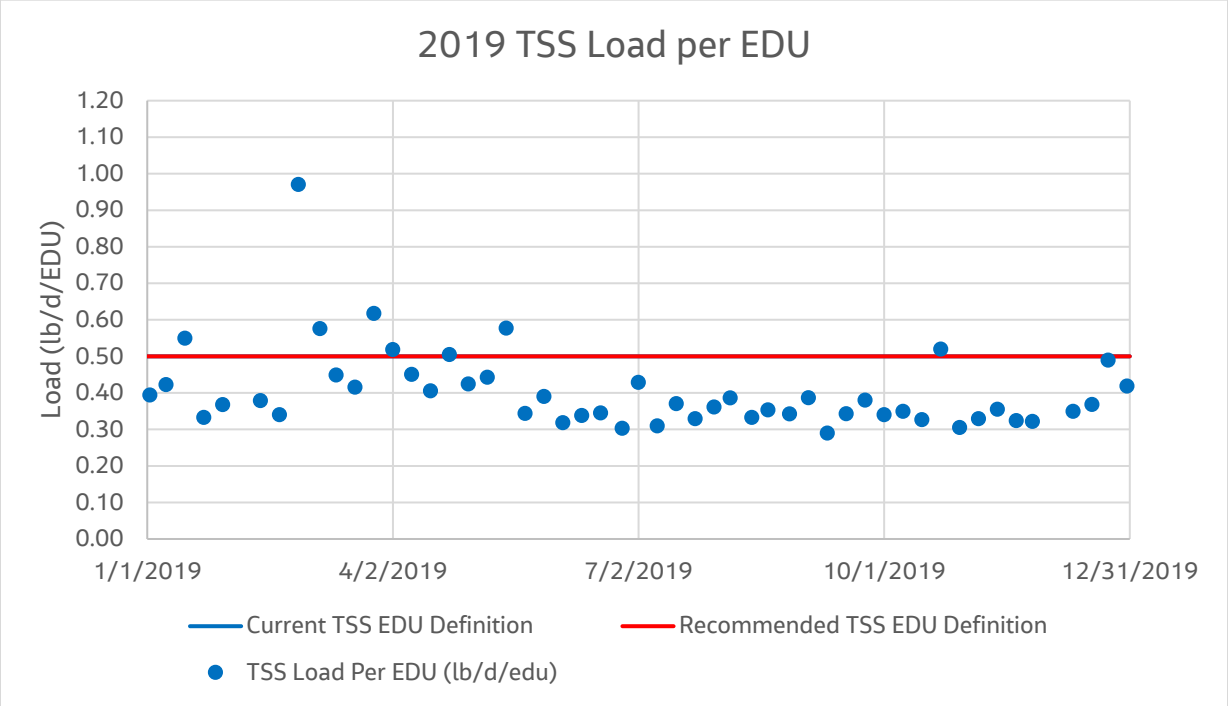

2023 BOD Load per EDU
Load (lb/d/EDU)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/1/2023
4/2/2023
7/2/2023
10/1/2023
12/31/2023
Current BOD EDU Definition
Recommended BOD EDU Definition
BOD Load Per EDU (lb/d/edu)

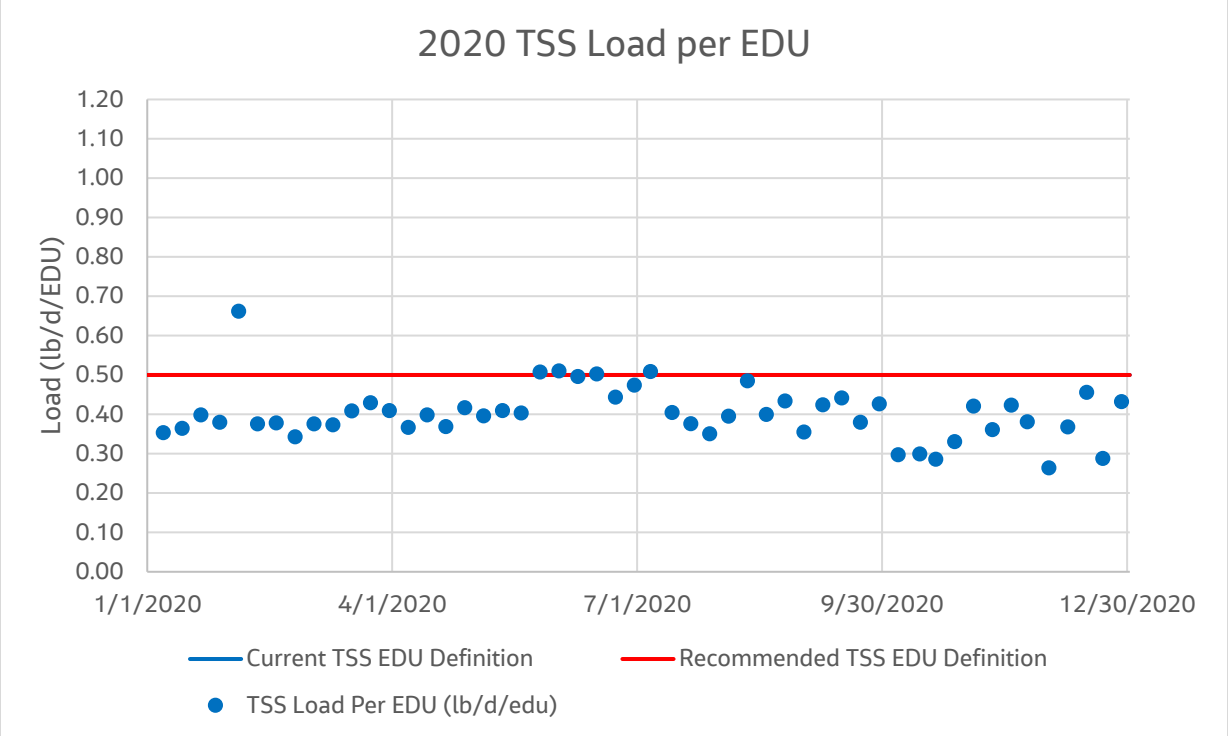

2023 BOD Load per EDU
Load (lb/d/EDU)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/1/2023
4/2/2023
7/2/2023
10/1/2023
12/31/2023
Current BOD EDU Definition
Recommended BOD EDU Definition
BOD Load Per EDU (lb/d/edu)

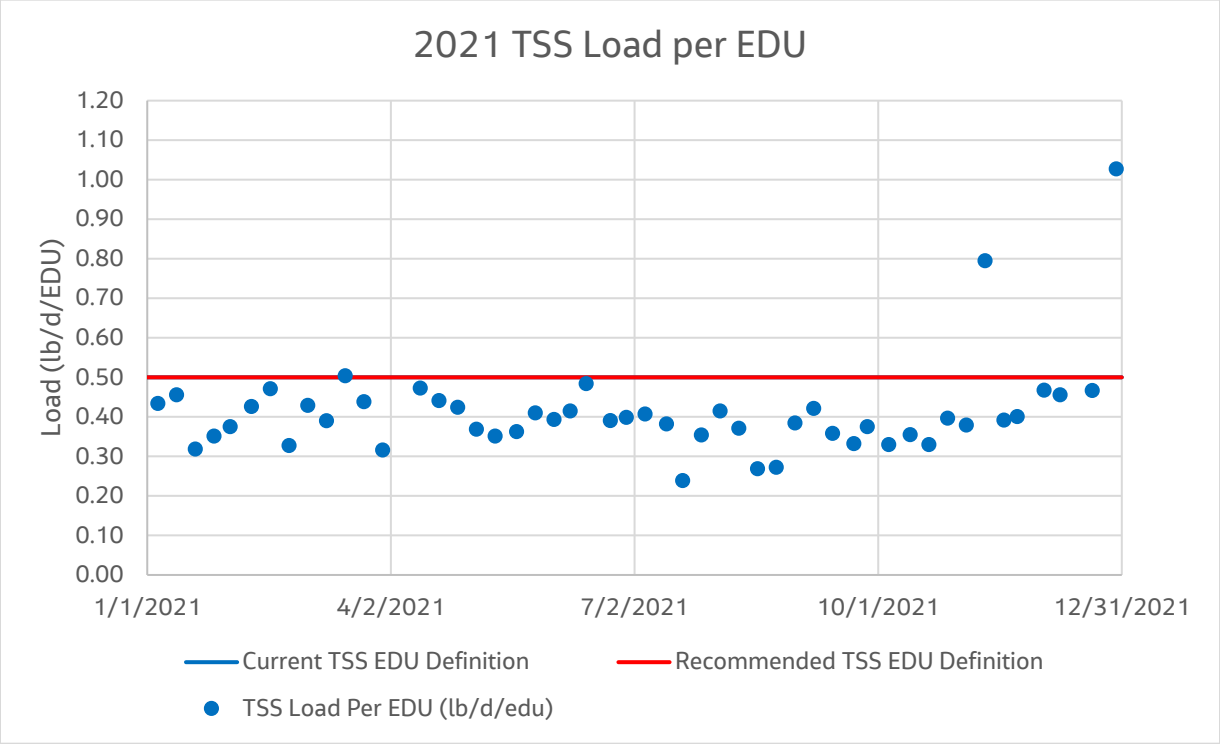

2024 BOD Load per EDU
Load (lb/d/EDU)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/1/2024
4/1/2024
7/1/2024
9/30/2024
12/30/2024
Current BOD EDU Definition
Recommended BOD EDU Definition
BOD Load Per EDU (lb/d/edu)

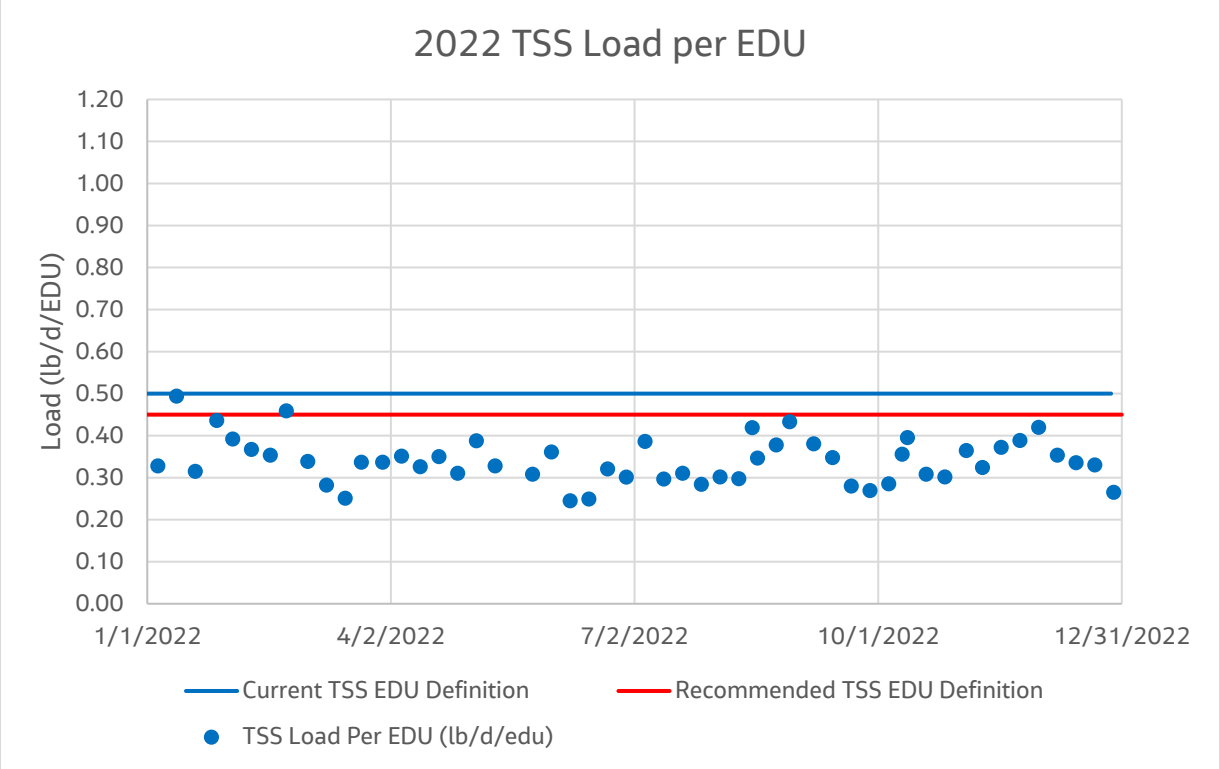

2019 - 2024 BOD Load per EDU
Load (lb/d/EDU)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/1/2019
1/1/2020
12/31/2020
12/31/2021
12/31/2022
12/31/2023
12/30/2024
Current BOD EDU Definition
Recommended BOD per EDU
BOD Load Per EDU (lb/d/edu)

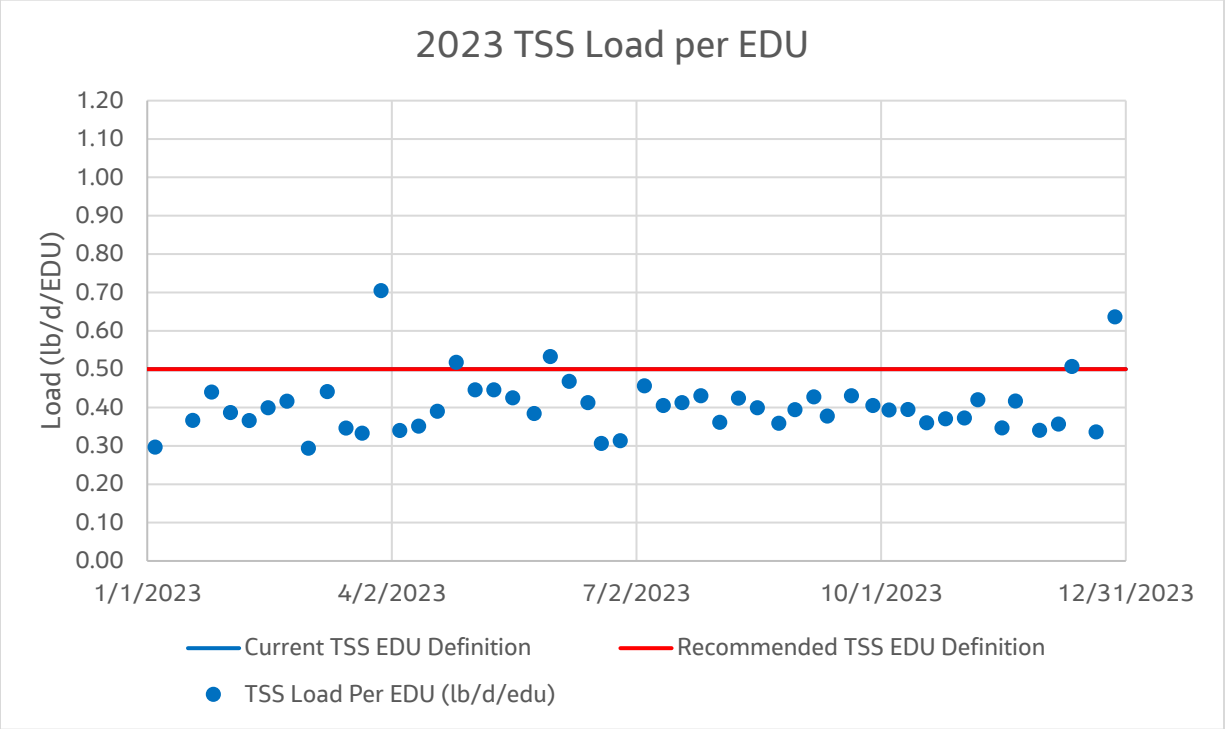
OPUD TSS Load per EDU by Year (2019-2024)

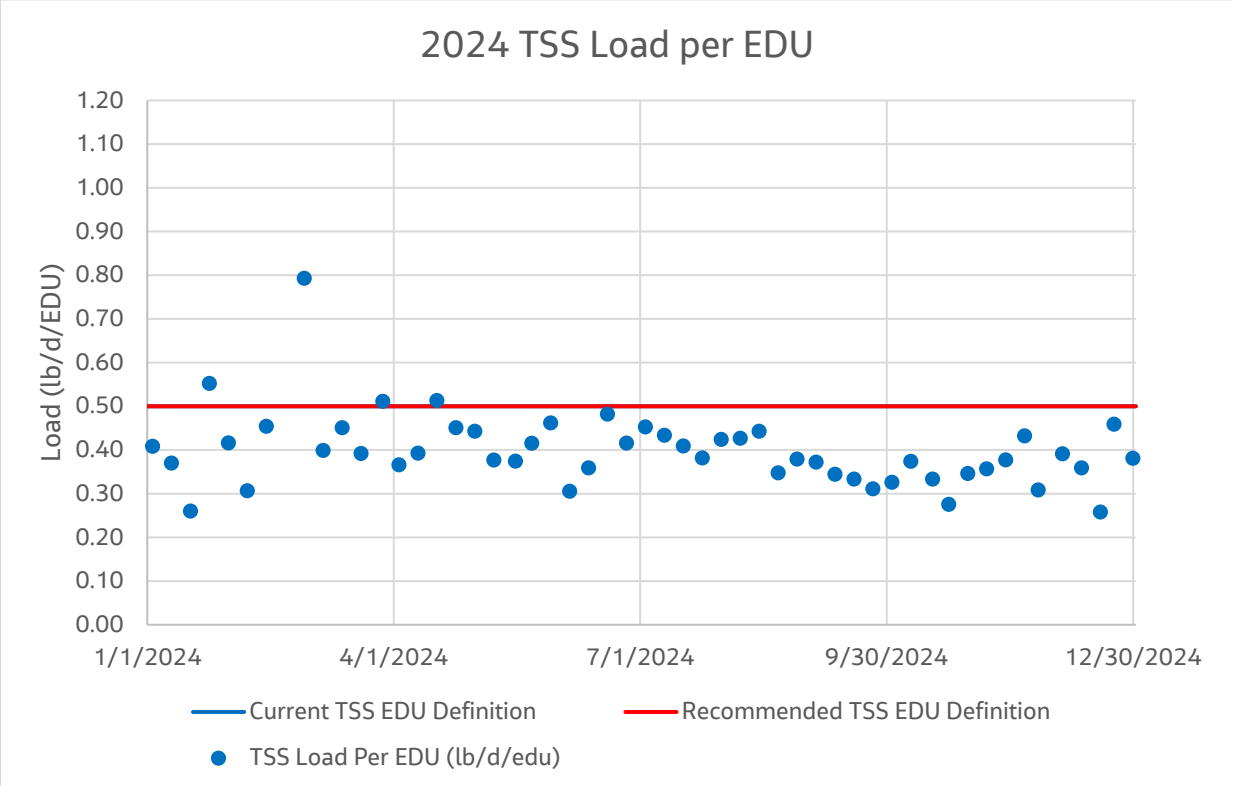


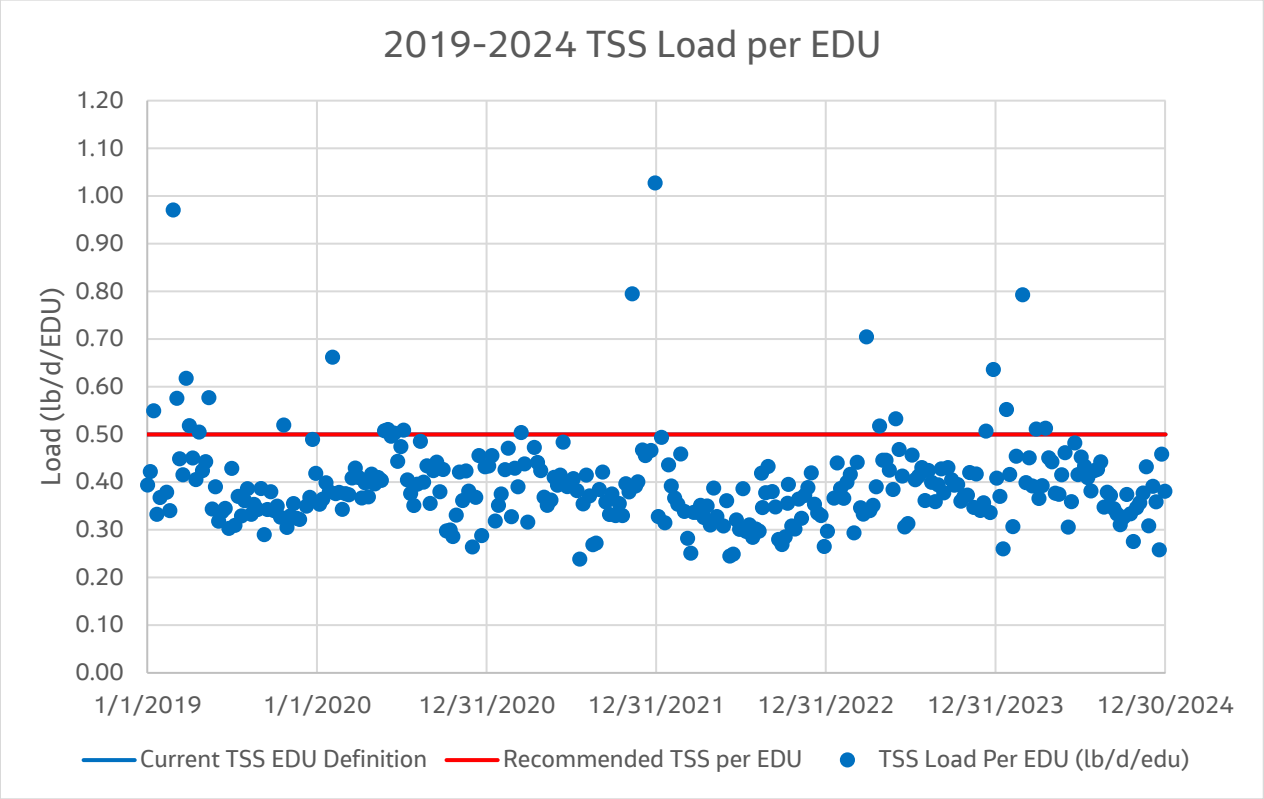



2021 TSS Load per EDU
Load (lb/d/EDU)
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1/1/2021
4/2/2021
7/2/2021
10/1/2021
12/31/2021
Current TSS EDU Definition
Recommended TSS EDU Definition
TSS Load Per EDU (lb/d/edu)


2022 TSS Load per EDU
Load (lb/d/EDU)
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1/1/2022
4/2/2022
7/2/2022
10/1/2022
12/31/2022
Current TSS EDU Definition
Recommended TSS EDU Definition
TSS Load Per EDU (lb/d/edu)


2023 TSS Load per EDU
Load (lb/d/EDU)
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1/1/2023
4/2/2023
7/2/2023
10/1/2023
12/31/2023
Current TSS EDU Definition
Recommended TSS EDU Definition
TSS Load Per EDU (lb/d/edu)


2024 TSS Load per EDU
Load (lb/d/EDU)
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1/1/2024
4/1/2024
7/1/2024
9/30/2024
12/30/2024
Current TSS EDU Definition
Recommended TSS EDU Definition
TSS Load Per EDU (lb/d/edu)



G.1.3 Proposed Future EDU Definition

The 2019-2024 EDU definition is used as a basis to develop the future recommended EDU definition. While BOD and TSS loads are assumed to stay fairly similar

G.2 Flow Projection

The equivalent dwelling unit (EDU) data was obtained from OPUD. The number of EDUs in the Olivehurst service area is presented in Table G-5.

Table G-5. Current EDU Data for Olivehurst Service Area

Master Plan for the Olivehurst Wastewater Treatment Plant

Sub-category	Number
Apartment complex	512
Business & Commercial	162
Church	25
Industrial	59
Multi-unit non apartment	156
School	203[a]
Park	3
Residences	7,522
Total	8,650

[a] A range was provided for number of sewer connections to each school. The maximum number of sewer connections was considered for this evaluation.

In order to determine the total number of EDUs in the non-residential category, the net area and flow per acre is from the *Olivehurst Public Utility District South County Water System and Wastewater Conveyance System Improvements Basis of Design Report* (September 2021). The net area in South Yuba County is 1,459 acres. The flow per acre is assumed to be 1,400 gallons per acre based on those in the nearby cities.

The total number of EDUs in City of Wheatland is 1,293.

The future land use and EDU data is summarized on Table G-6.

The current and projected land use and EDU data is summarized in Table G-7. The land use data was obtained from the South Yuba County Regional Infrastructure Financing Strategy, Economic & Planning Systems, Inc. (EPS), June 2022.

Preliminary Working Draft

Table G-6. Future Land Use and EDU Data

Land Use	Remaining Development- OPUD			Remaining Development – City of Wheatland			Total Remaining Development		
	Acres	EDUs	Building area (SF)	Acres	EDUs	Building area (SF)	Acres	EDUs	Building area (SF)
Residential									
Single-Family	-	10,079	-	-	9,648	-	-	19,727	-
Multi-Family	-	276	-	-	4,800	-	-	5,076	-
Subtotal Residential	-	10,355	-	-	14,448	-	-	24,803	-
Non-Residential									
a. Retail	1,097.5	-	-	134.0	-	-	1,231.5	-	-
b. Office	1,043.8	-	-	274.3	-	-	1,318.1	-	-
c. Industrial	694.5	-	-	0.0	-	-	694.5	-	-
d. South Yuba County									
Subtotal Non-Residential	2,835.8			408.3			3,244.1		

Preliminary Working Draft

Table G-7. Current and Projected Land Use and EDU Data

	Category	OPUD					City of Wheatland				
		EDUs	Net area (acres)	Flow (mgd)	BOD (ppd)	TSS (ppd)	EDUs	Net area (acres)	Flow (mgd)	BOD (ppd)	TSS (ppd)
Current	Residential	8,639	-	1.99			1,293		0.30		
	Non-Residential	-	1,459	2.04							
Total											
Projected	Residential	18,994	-	4.37			15,741		3.62		
	Non-Residential	-	2,836	3.97				408.3	0.57		
Total				8.34					4.19		

Preliminary Working Draft

Appendix H
Equalization Flow Analysis

Appendix H. Equalization Flow Analysis

The Olivehurst Public Utility District (OPUD) is expecting influent flow increases to the wastewater treatment plant (WWTP) in the future. WWTP flows are expected to increase due to the following: OPUD and City of Wheatland service area growth, City of Wheatland connection to OPUD WWTP, and the upgrades of Pump Station's 1 and 2 (PS1, PS2). PS1 and PS2 are undergoing improvements through a separate project that is meant to increase their capacity. PS1 and PS2 only provide additional peak flows and will not influence average dry weather flows (ADWF).

OPUD's WWTP capacity is rated as 3.0 MGD ADWF but currently receive only 1.7 MGD ADWF. However, OPUD receives higher peak day and peak hour flows (PDF and PHF) than the rated design capacity as shown in Table H-1. This section describes the new flow projections for OPUD WWTP at its 3 MGD ADWF rated capacity and updating the PDF and PHF design criteria based on review and evaluation of historic data.

H.1 Current Flows

ADWF was based on the lowest 3-month running average in 2024, which occurred from August to October. Data from 2022 – 2024 was evaluated to determine peak flows. The PDF and PHF occurred on January 22, 2024. The period of January 21 through 25 of 2024 also resulted in the highest daily flow over a 5-day running average. This 5-day period was chosen based on OPUD's past storm storage operations, the WWTP has stored flow for 5 consecutive days. The current flows are summarized in Table H-1.

Table H-1. Current Flows vs. Rated Capacity

Flow Condition	Measured Values (MGD)	OPUD WWTP Design Capacity (MGD)
Average Dry Weather Flow (ADWF)	1.7	3.0
Peak Day Flow (PDF)	7.4	6.8
Peak Hour Flow (PHF)	9.8	9.7

The measured values for the PDF and PHFs are higher than the design capacity values despite the measured ADWF being just above half of the design capacity ADWF. Therefore, a new PDF and PHF must be developed to better represent what the plant is expecting to see.

H.2 Projected Flows

The City of Wheatland is estimated to generate 0.4 MGD of ADWF at initial connection. The growth rate for the City of Olivehurst and City of Wheatland is estimated to be 4% per year. The City of Wheatland is allowed a PHF factor of 3 (3 times their ADWF) per "WASTEWATER TREATMENT AND OPERATIONS AGREEMENT" effective as of ___, 2024. OPUD's PHF factor is also assumed to be 3, excluding PS1 and PS2. The PS1 and PS2 PHFs are an additional 2.4 and 0.6 MGD respectively. PDFs were estimated based on the existing flow ratio of PDF/PHF. The projected flows are summarized in Table H-2.

Table H-2. Projected Flows

Entity	ADWF	PDF	PHF
OPUD (*current*)	1.7	7.4	9.8
OPUD (*growth*)	0.8	1.7	2.3
Wheatland	0.5	1.2	1.6
PS1 SSO	N/A	1.8	2.4
PS2 SSO	N/A	0.5	0.6
Projected Flows	**3.0**	**12.6**	**16.7**

The new projected PDF and PHF are significantly higher than the current design flows. The increased projected flows may be too high for the tertiary filters and UV disinfection to handle. The tertiary systems were previously designed to handle more than the design PDF (filtration and UV capacity of 7.4 MGD compared to design PDF of 6.8 MGD). All additional flows are sent to the flow equalization basin (FEB) or emergency storage basin (ESB) via the filter influent pump station (FIPS). Therefore, an analysis of the equalization storage is required to determine if there is enough filtration and UV capacity to accommodate the new design flows.

H.3 Equalization Basins Existing Conditions

The current FEB has a capacity of 1.7 MG at a maximum WSE of 55.5 and surface area of 46,980 ft^2. The ESB has a maximum capacity of roughly 4.6 MG at a WSE of 61 (1 ft of freeboard). The ESB's capacity will be reduced to 4.1 MG, equivalent surface area of roughly 269,000 ft^2, as aerobic digester 3 will be constructed and cover a portion of the ESB. The new total storage capacity is 5.8 MG.

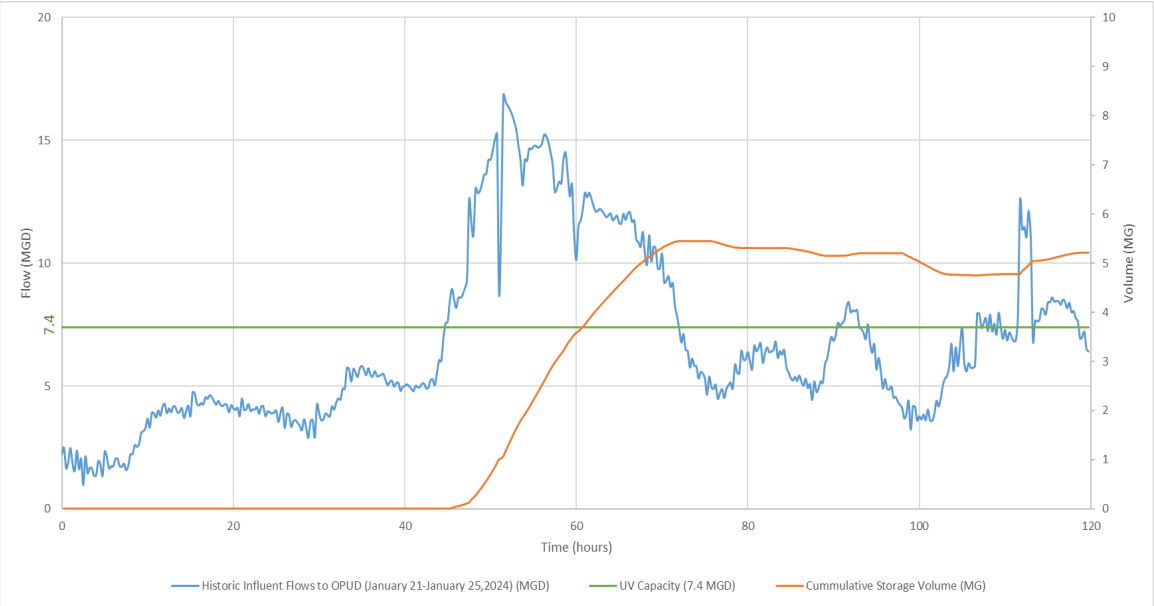
H.4 Equalization Flow Model

The model consists of evaluating flow from the FIPS through the tertiary filters, UV, and outfall (WSE of 55'), while diverting excess flow to the FEB and ESB for temporary storage. The two key assumptions made when creating the model shown below:

- The modeled FEB and ESB are empty at the beginning of the storm event.
- Flow analysis and associated results are based on the January 21-25, 2024 influent flow records and associated storage requirements. This event occurred during a 100-yr level of annual precipitation, and this storm event reflects only one manner in which precipitation results in higher influent flows. There are other conditions that can create higher storage requirements that have not been analyzed. For example, a different storm event may be milder but exceed plant capacity over an extended period.

The first flow equalization scenario was created to determine what the minimum required filtration and UV capacity is while maximizing storage capacity. The model was first tested for the January 21 through January 25, 2024 storm where the PDF and PHF occurred. The results are shown in Figure H-1.

Figure H-1. Scenario 1 Flow and Storage Analysis



Notes:

a. *Rainfall is accounted for by adding 5.6 inches to the FEB and ESB. 5.6-inches is a 100-year, 24-hour rainfall for the City of Olivehurst. The total volume is spread over a 48-hour period.*

b. *Historical data is multiplied by a growth factor of 1.7 which is calculated from the ratio of the projected PDF and the measured PDF (12.6/7.4 = 1.7)*

The resulting equalized storage over the five-day period is 5.5 MG, which is slightly below the maximum storage capacity of the plant (5.8 MG). However, as can be seen in Figure H-1, the storage does not have time to significantly drain in this time period, and if another storm were to follow, it could cause both the FEB and ESB to overtop.

Due to these concerns, a second storm event which had the longest 20-day average daily flow, which occurred from December 31, 2022 through January 19,2023, was evaluated. Through an iterative process, it was determined that a minimum UV capacity of 8.3 MGD is necessary to maintain storage below 5.8 MG. The modeled storm, UV capacity, and storage volume are shown in Figure H-2.

Figure H-2. Scenario 2 Flow and Storage Analysis



Notes:

a. *Rainfall was accounted for by adding 5.6 inches to the FEB and ESB. 5.6-inches is a 100-year, 24-hour rainfall for the City of Olivehurst. The total volume was spread over a 48-hour period. See "Additional Data" section for more information.*

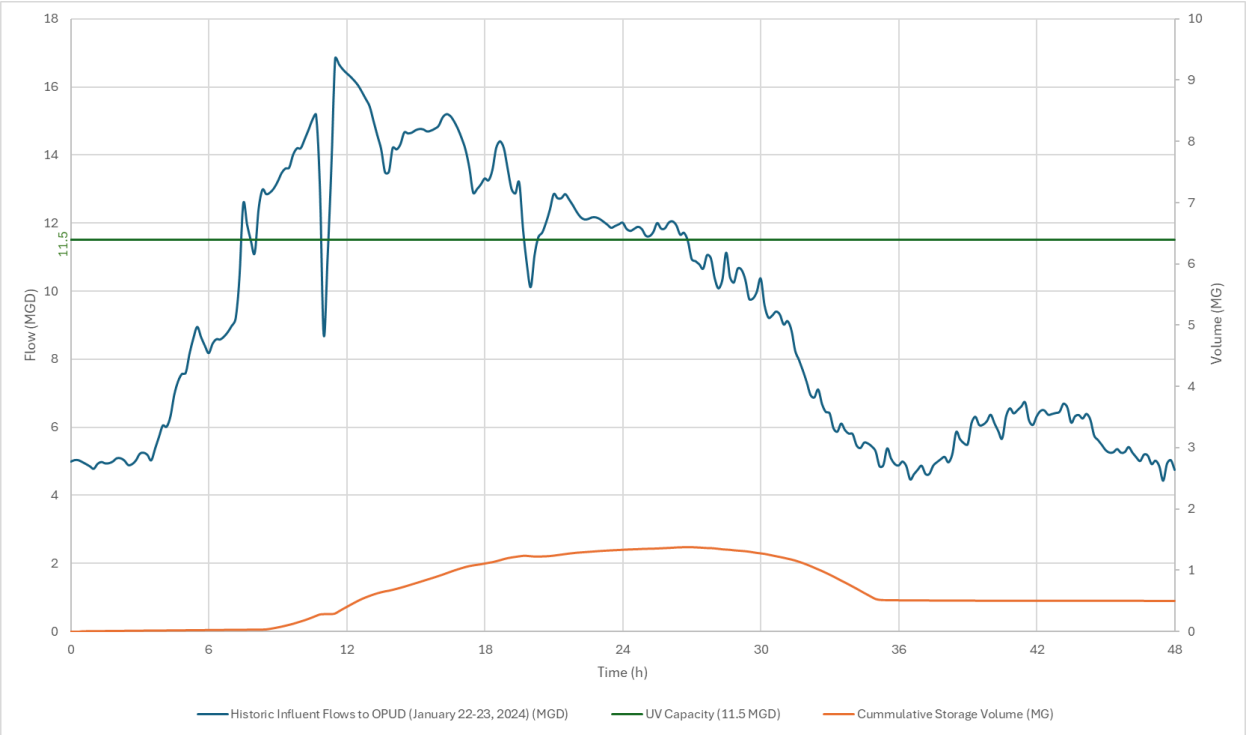
b. *Historical data is multiplied by a growth factor of 1.7 which is calculated from the ratio of the projected PDF and the measured PDF (12.6/7.4 = 1.7)*

c. *The projected flows were based on daily average flows from December 31, 2022 to January 19, 2023 and the diurnal pattern from January 21 – 25. 2024.*

The resulting 8.3 MGD of required filtration and UV capacity is greater than the existing 7.4 MGD. This is a marginal increase in required capacity (less than 1 MGD). There currently are four built UV channels, but only two have equipment installed. The two existing UV disinfection channels have roughly 7.4 MGD capacity (3.7 MGD per channel). Therefore, the addition of equipment in a third channel would bring the total UV capacity of roughly 11.1 MGD. During the development of the predesign report, the UV disinfection system and its associated maximum water surface elevation were reviewed and adjusted to maximize the hydraulic capacity of the UV channels. Ultimately, the new total hydraulic capacity of the UV system is 11.5 MGD.

A third scenario was created to evaluate the required storage capacity with the updated UV and filtration capacity of 11.5 MGD. The flow equalization storage requirement was evaluated based on the PDF and PHF conditions stated earlier (12.6 and 16.7 MGD) as shown in the storm hydrograph in Figure H-3. The influent flow used in the model was the 48-hour peak seen between January 22nd and January 23rd of 2024. 15-minute incremental influent flow data from that storm was input into Replica, a Jacobs dynamic hydraulic modeling tool, to predict the required equalization volume. A longer storm event was not evaluated as the FEB was already draining by the end of this 48-hour period. Scenario 3's flow equalization analysis indicated a required storage capacity of 1.4 MG, meaning the existing storge capacity is adequate for the conditions investigated. The model results are presented in Figure H-3.

Figure H-3. Scenario 3 Flow and Storage Analysis



Notes:

a. *Rainfall is accounted for by adding 5.6 inches to the FEB and ESB. 5.6-inches is a 100-year, 24-hour rainfall for the City of Olivehurst. The total volume is spread over a 48-hour period.*

b. *Historical data is multiplied by a growth factor of 1.7 which is calculated from the ratio of the projected PDF and the measured PDF (12.6/7.4 = 1.7)*

H.5 Results

Table H-3 summarizes the calculated design flows and equalization storage capacity.

Table H-3. Design Flows and Equalization Storage Results

ADWF	PDF	PHF	Tertiary Treatment Capacity	Minimum Required Storage	Available Storage
3.0 MGD	12.8 MGD	16.7 MGD	11.5 MGD	1.4 MG	5.8 MG

H.6 Additional Data

The daily flow data from January 21 – 25 of 2025 and its scaled version to 3 MGD ADWF are shown in Table H-4.

Table H-4. Storm Flow Projection (Actual vs. 3 MGD ADWF Equivalent)

Day	Historic Flow (MGD)	Projected Flow Equivalent at 3 MGD ADWF (MGD)
21/01/2024	3.1	5.3
22/01/2024	7.4	12.6
23/01/2024	3.5	6.0
24/01/2024	3.9	6.6
25/01/2024	3.2	5.4

Table H-5. Olivehurst Point Precipitation Frequency Estimates by National Oceanic and Atmospheric Administration (NOAA)

NOAA Atlas 14, Volume 6, Version 2
Location name: Olivehurst, California, USA*
Latitude: 39.0685°, Longitude: -121.5504°
Elevation: 61 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.110 (0.099-0.125)	0.136 (0.121-0.154)	0.171 (0.152-0.195)	0.202 (0.177-0.232)	0.246 (0.206-0.297)	0.282 (0.229-0.352)	0.321 (0.252-0.415)	0.364 (0.274-0.489)	0.427 (0.303-0.607)	0.479 (0.325-0.715)
10-min	0.158 (0.141-0.179)	0.195 (0.174-0.221)	0.246 (0.218-0.279)	0.289 (0.254-0.333)	0.353 (0.295-0.426)	0.405 (0.328-0.504)	0.461 (0.361-0.594)	0.522 (0.393-0.701)	0.612 (0.435-0.870)	0.687 (0.465-1.02)
15-min	0.191 (0.171-0.216)	0.235 (0.210-0.267)	0.297 (0.264-0.338)	0.350 (0.307-0.403)	0.426 (0.357-0.515)	0.489 (0.397-0.610)	0.557 (0.436-0.719)	0.631 (0.475-0.847)	0.740 (0.526-1.05)	0.831 (0.563-1.24)
30-min	0.268 (0.239-0.303)	0.330 (0.294-0.374)	0.416 (0.369-0.473)	0.490 (0.430-0.564)	0.597 (0.499-0.722)	0.685 (0.556-0.854)	0.780 (0.611-1.01)	0.884 (0.666-1.19)	1.04 (0.736-1.47)	1.16 (0.788-1.74)
60-min	0.356 (0.318-0.402)	0.438 (0.391-0.496)	0.552 (0.491-0.628)	0.651 (0.571-0.749)	0.793 (0.663-0.959)	0.910 (0.738-1.13)	1.04 (0.812-1.34)	1.18 (0.884-1.58)	1.38 (0.978-1.96)	1.55 (1.05-2.30)
2-hr	0.517 (0.462-0.585)	0.617 (0.550-0.699)	0.756 (0.672-0.860)	0.877 (0.770-1.01)	1.05 (0.881-1.27)	1.20 (0.973-1.49)	1.36 (1.06-1.75)	1.53 (1.15-2.05)	1.79 (1.27-2.54)	2.00 (1.36-2.98)
3-hr	0.644 (0.575-0.728)	0.761 (0.679-0.862)	0.926 (0.823-1.05)	1.07 (0.938-1.23)	1.28 (1.07-1.54)	1.45 (1.17-1.80)	1.63 (1.28-2.11)	1.84 (1.38-2.47)	2.14 (1.52-3.04)	2.39 (1.62-3.57)
6-hr	0.927 (0.828-1.05)	1.10 (0.977-1.24)	1.33 (1.18-1.51)	1.53 (1.34-1.76)	1.82 (1.52-2.20)	2.06 (1.67-2.57)	2.32 (1.82-2.99)	2.60 (1.96-3.49)	3.01 (2.14-4.28)	3.36 (2.28-5.01)
12-hr	1.23 (1.10-1.39)	1.54 (1.37-1.74)	1.96 (1.74-2.22)	2.30 (2.02-2.65)	2.78 (2.32-3.36)	3.16 (2.56-3.93)	3.54 (2.77-4.57)	3.95 (2.97-5.30)	4.51 (3.20-6.41)	4.95 (3.36-7.38)
24-hr	1.65 (1.49-1.86)	2.24 (2.02-2.53)	2.99 (2.69-3.39)	3.59 (3.20-4.10)	4.38 (3.78-5.19)	4.98 (4.21-6.03)	5.58 (4.60-6.92)	6.19 (4.95-7.90)	7.00 (5.37-9.32)	7.62 (5.64-10.5)
2-day	2.19 (1.98-2.48)	2.90 (2.62-3.28)	3.80 (3.42-4.32)	4.52 (4.03-5.18)	5.47 (4.72-6.48)	6.19 (5.22-7.48)	6.89 (5.67-8.55)	7.61 (6.09-9.70)	8.55 (6.56-11.4)	9.27 (6.86-12.8)
3-day	2.59 (2.34-2.93)	3.37 (3.04-3.82)	4.37 (3.93-4.95)	5.16 (4.60-5.90)	6.20 (5.35-7.34)	6.99 (5.90-8.45)	7.77 (6.39-9.63)	8.56 (6.84-10.9)	9.60 (7.36-12.8)	10.4 (7.69-14.3)
4-day	2.90 (2.62-3.28)	3.73 (3.36-4.22)	4.79 (4.31-5.44)	5.63 (5.02-6.44)	6.75 (5.82-7.99)	7.58 (6.40-9.17)	8.42 (6.93-10.4)	9.26 (7.40-11.8)	10.4 (7.95-13.8)	11.2 (8.30-15.4)
7-day	3.62 (3.27-4.09)	4.57 (4.12-5.17)	5.79 (5.20-6.57)	6.76 (6.03-7.73)	8.04 (6.94-9.52)	9.01 (7.61-10.9)	9.98 (8.22-12.4)	11.0 (8.77-14.0)	12.3 (9.41-16.3)	13.3 (9.82-18.3)
10-day	4.10 (3.70-4.64)	5.13 (4.63-5.81)	6.45 (5.80-7.32)	7.51 (6.70-8.59)	8.91 (7.68-10.6)	9.98 (8.42-12.1)	11.0 (9.08-13.7)	12.1 (9.69-15.5)	13.6 (10.4-18.0)	14.7 (10.9-20.2)
20-day	5.44 (4.92-6.15)	6.79 (6.12-7.68)	8.49 (7.64-9.64)	9.84 (8.78-11.3)	11.6 (10.0-13.8)	13.0 (10.9-15.7)	14.3 (11.8-17.7)	15.6 (12.5-19.9)	17.4 (13.3-23.1)	18.7 (13.9-25.8)
30-day	6.55 (5.92-7.40)	8.19 (7.38-9.26)	10.2 (9.21-11.6)	11.8 (10.6-13.6)	13.9 (12.0-16.5)	15.5 (13.1-18.7)	17.0 (14.0-21.1)	18.5 (14.8-23.6)	20.5 (15.7-27.3)	22.0 (16.3-30.4)
45-day	8.06 (7.28-9.11)	10.1 (9.12-11.4)	12.6 (11.4-14.3)	14.6 (13.0-16.7)	17.1 (14.7-20.2)	18.9 (16.0-22.9)	20.7 (17.0-25.7)	22.4 (17.9-28.6)	24.7 (18.9-32.8)	26.3 (19.5-36.3)
60-day	9.54 (8.62-10.8)	12.0 (10.8-13.6)	15.0 (13.5-17.0)	17.3 (15.4-19.7)	20.1 (17.4-23.8)	22.2 (18.7-26.9)	24.2 (19.9-30.0)	26.1 (20.9-33.3)	28.6 (21.9-38.1)	30.4 (22.5-41.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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Appendix I
Future Expansion Considerations

Appendix I. Future Expansion Considerations

I.1 Secondary Process Intensification

Intensification technologies allow the treatment of higher flows and loads within the limited footprint of existing facilities compared with conventional treatment technologies. Implementing secondary treatment intensification at OPUD WWTP can help it meet future requirements with minimal expansion. Among potential intensification technologies, the options with full scale installations in the US include:

- Integrated fixed film activated sludge (IFAS)
- Membrane bioreactors (MBR)
- Aerobic Granular Sludge (AGS)
- Mobile Organic Biofilm (MOB)
- Sludge Densification
- Membrane Aerated Biofilm Reactor (MABR)
- Aerobic Granular Sludge (AGS)

The design of the existing oxidation ditches may constrain which technologies are suitable. Technologies affected by these constraints include IFAS and MBRs. IFAS would require extensive modifications to create news zones and recycles to implement. This includes a reactor zone to retain the fixed film media and strainers to retain the media. The velocity of the mixed liquor within the IFAS zone must also be limited to allow even distribution of the media. A MBR process has already been deemed cost prohibitive from previously estimated construction cost estimates. The proven configuration of the AGS technology is a batch system which is not compatible within the existing oxidation ditches. These three processes (IFAS, MBR, and AGS) were not considered viable for this master plan and are not discussed in detail. Potentially suitable intensification technologies are discussed below:

I.1.1 Mobile Organic Biofilm

The MOB process combines both suspended and attached growth systems, which facilitates nitrification, denitrification, and biological phosphorus removal. It accomplishes this by adding a plant-based media which provides surfaces for additional microbial growth, which enhances treatment capacity within existing basins. The MOB process by Nuvoda uses organic media carrier made of porous plant stalks on which biofilm attaches and grows into well-settling granules with the media as the core. Though similar to IFAS systems, the media in the MOB process moves freely within the reactor zones and does not need separate compartments to retain the media. A retention screen separates the media from waste activated sludge stream, thereby retaining the granulated biomass with media and only wasting floccular biomass (Figures I-1, I-2).

Figure I-1. Simplified Process Flow Diagram of MOB Process

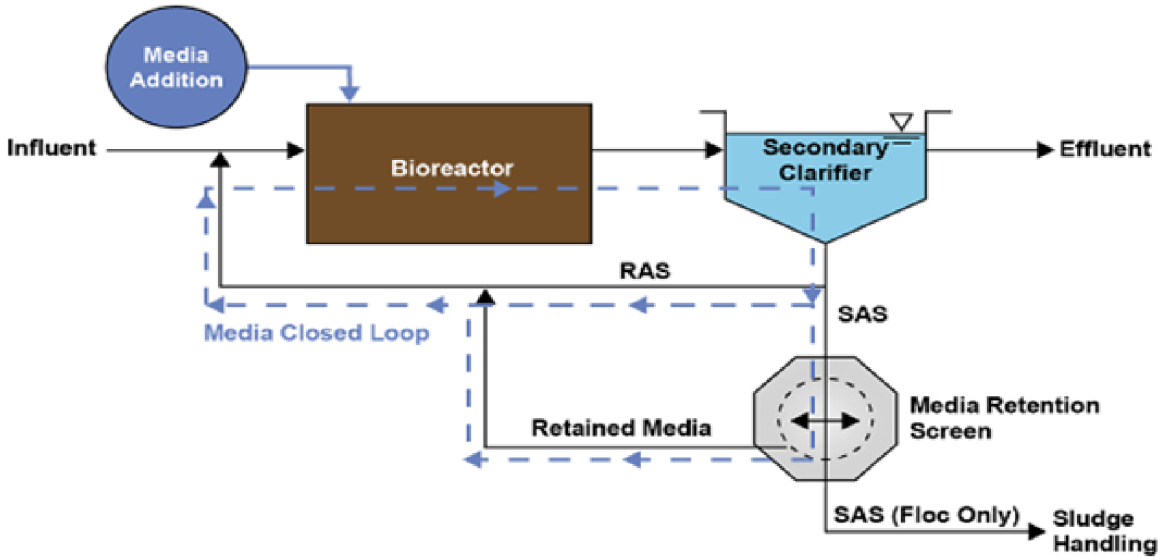


Figure I-2. MOB Media Screening



The MOB process can easily be retrofitted into existing facilities to enhance capacity or meet more stringent regulatory requirements without extensive capital investment. Retrofits include the addition of the media carrier to the secondary treatment system and carrier-retention rotary drum screens on the WAS stream. Because the media with biomass is retained by the screen, the MOB system is a closed-loop process, and limits media loss. The plant-based media resists breakdown under secondary treatment conditions and poses no risk of discharging unwanted particles, such as microplastics, to the environment. Table I-1 below lists example installations which have implemented MOB.

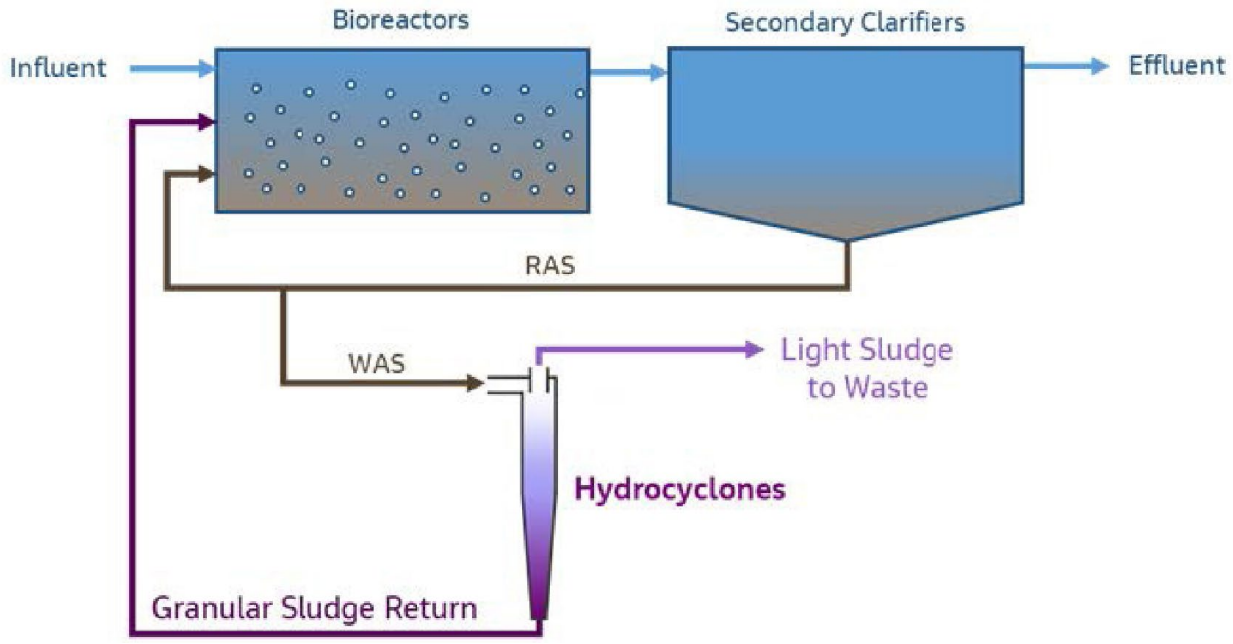
Table I-1. Example MOB Installations, Goals, and Flows

Installation	Install Type and Goals	Flow (MGD)
Rigby, Idaho	Oxidation Ditch Retrofit	2.6
Norristown Township	Retrofit, Nutrient Removal, Capacity Increase	2.0
Truckee Meadows Water Reclamation Facility	Pilot-Scale Retrofit, Nutrient Removal	6.1
City of Saskatoon	Nutrient Removal, Capacity Increase	20.0

I.1.2 Sludge Densification

Sludge densification is a process which selectively retains functional bacteria in mixed liquor to improve settleability. This increases settling rates and concentrates the microbial population, allowing for increased plant capacity or reduced tank volume requirements. The inDENSE™ system by World Water Works and zeeDENSE by Veolia are some of the systems which use hydrocyclones to achieve densified sludge. These hydrocyclones are applied to the WAS line and separate the light sludge fraction from the denser biomass (Figure I-3). The overflow is wasted, and the underflow is returned to the reactors. Hydrocyclones are relatively straightforward and cost-effective to implement in existing processes and can be combined with other intensification processes like MABR. The installation consists of hydrocyclone manifolds, hydrocyclone feed pumps), and hydrocyclone overflow and underflow return pumps (if needed based on site-specific conditions).

Figure I-3. inDENSE™ System

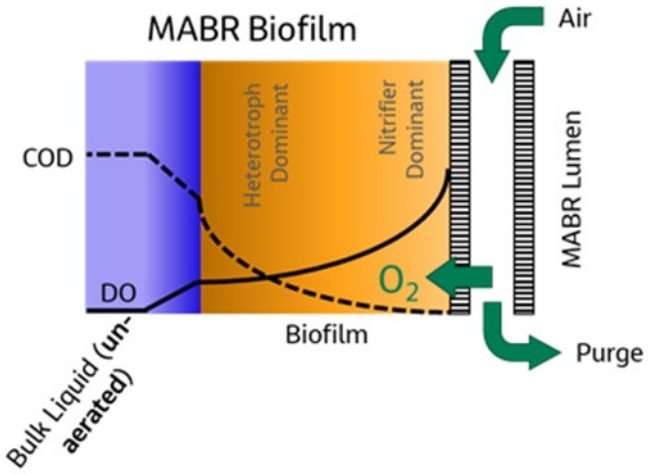


To make the densification process effective, the upstream pretreatment needs to remove heavy material like grit to avoid accumulation of inert heavy particles in the bioreactor. A performance evaluation of the facility's grit removal and primary treatment processes would need to be considered if implemented at OPUD WWTP.

I.1.3 Membrane Aerated Biofilm Reactor

The MABR is a biofilm process that uses membranes as a surface to grow biofilm on the outside of the fiber, while providing aeration from the inside of the fiber (Figure I-4). Membrane cassettes are submerged in the unaerated zone of the bioreactor. By aerating the inside of the biofilm and the wastewater on the outside of the biofilm, the resulting biology provides nitrification on the inner layer of the biofilm. Denitrification occurs outside of the biofilm in the bulk liquid with denitrifying biomass and influent organics as the electron donor. The membrane zone is typically followed by an aerobic zone to oxidize remaining organics and residual nitrogen. This arrangement allows for efficient aeration, retention of the nitrifying biomass, a reduced footprint, and effective nitrification and denitrification.

Figure I-4. MABR Hollow Fiber and Biofilm Schematic



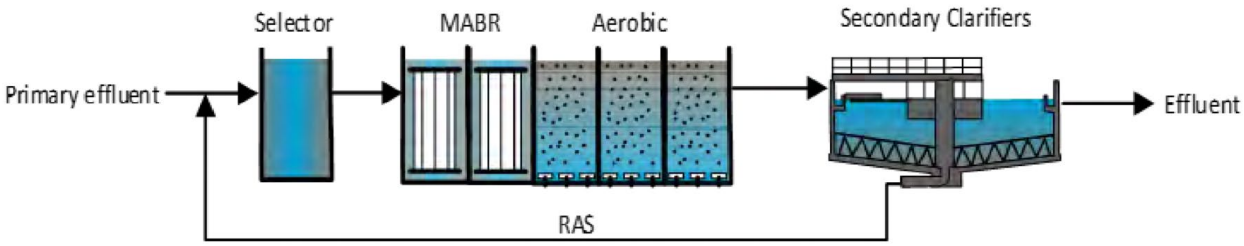
For MABR systems with hollow fiber membranes, the membranes are packaged into cassettes (Figure I-5). These cassettes are modular, facilitating retrofit applications. Figure 4-6 shows a simplified process flow diagram of a typical MABR process. The membrane cassettes would be submerged in the anoxic zones of the oxidation ditches. A selector upstream of the MABR reactors reduces filamentous growth and improves settling in the secondary clarifiers.

Figure I-5. Hollow Fiber Membranes for MABR





Figure I-6. Example MABR Process Flow Diagram



I.2 Factors Affecting Intensification Process Performance Improvements

The performance of intensification processes depends on reactor sizing, reactor hydraulics, and source water characteristics. Though intensification processes improve the biological process, the overall capacity of the process may be limited by other factors such as influent loading and hydraulic loading. Any intensification upgrades to enable the treatment of higher flows much be coupled with upgrades to hydraulically limited equipment and conveyance systems.

I.2.1 Full-scale Stress Testing, and Capacity Rerating

XXX

I.2.2 Solids Processing and Handling

XXX

Appendix J
February 23, 2026, Master Plant Update and Discussion



OPUD Master Plan Update & Discussion

February 23, 2026

Background and Status

- Past Capital Improvement Plan (CIP) provided to EPS for MBR Alternative – incorrect and total estimated connection fee was considered to be too expensive ($16,432, within typical range for today's WWTP). EPS would like updated costs, but W&C work is not yet complete, so some complications
- Working on Status Quo Alternative – Oxidation ditches or aeration basins with recommendation to consider alternatives (we are costing ox ditches, since they are more expensive option)
  - Approximately 80% complete
  - Doug Barber, Steve DeCou, and Kevin Kennedy in general agreement with process engineer's recommended improvements for 5.0 MGD ADWF
    - Secondary treatment process – volume, technology
    - Solids handling – status quo (cost effective) and conventional (mechanical), combination thereof; HOWEVER requires detailed analysis which will be deferred until preliminary design for next expansion. We will list what should be considered in this analysis (biogas, PFAS, groundwater contamination critical considerations, not just operating and capital costs)
    - Applied highest alternative cost for this estimate
- EPS/Russ has requested update – would like to meet Feb 27, OPUD in attendance
- Today: Describe recommended improvements and costs and ask OPUD if we can send these to EPS to allow them to prepare better connection fee estimate.

MBR Connection Fee Estimate Alt. (1/2)

Table 1 - PREVIOUSLY PROVIDED BY EPS TO LEADERSHIP COMMITTEE FOR MBR ALTERNATIVE
Olivehurst PUD Wastewater Treatment Facility
Preliminary Estimate of WWTF Fee per EDU

Item		Costs	EDUs	Cost/EDU	Cumulative Fee
Capital Costs of Construction					
Phase 1 and 2 MBR from 3.0 to 5.0 MGD ADWF		$118,670,000			
Immediate Solids Improvements for 3.0 MGD ADWF		$5,640,600			
Total Capital Costs (ROUNDED)		$124,310,000			
Soft Costs/Contingency	25.00%	$31,077,500			
LESS Grants Funds and Current Fee Fund Balance [1]		$0			
Total Capital Costs with Contingency [2]		**$155,387,500**	**13,043**	**$11,913**	**$11,913**

$84M

Steve – in or out?

?? OPUD

MBR Connection Fee Estimate Alt. (2/2)

Existing Facility R&R Funding (New Development)					
Estimated Value of Existing Facility		$60,000,000			
Annual R&R Allocation [3]	1.50%	$900,000			
Estimated Years	10	$9,000,000			
Allocation of Existing Costs to New Development [2]	**50.00%**	**$4,500,000**	**21,693**	**$207**	**$12,121**

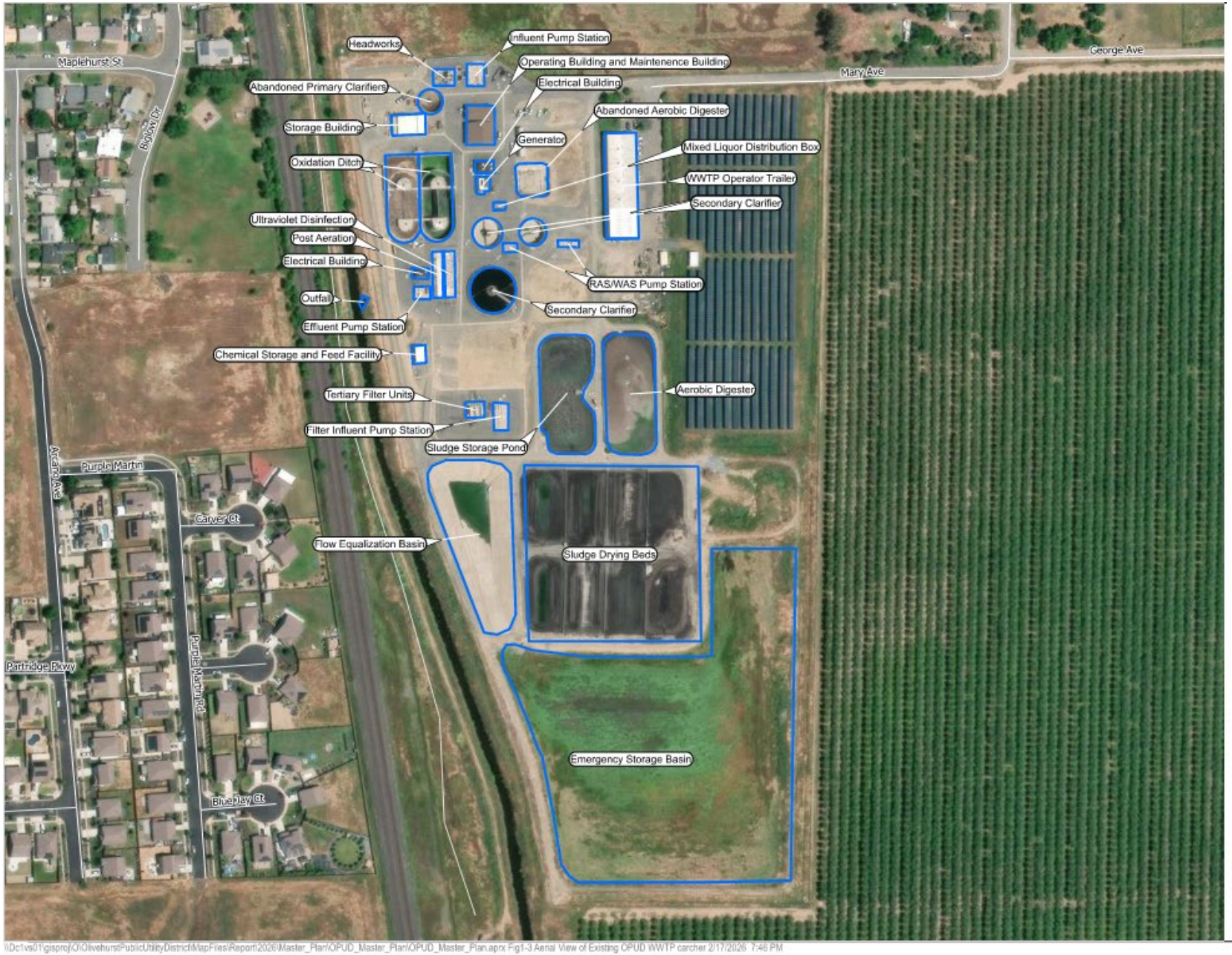
Financing Costs					
Total Capital Costs with Contingency		$155,387,500			
Estimated Financing Costs [4]	28%	$43,400,000			
Financing Costs		**$43,400,000**	**13,043**		

Too high per Leadership Committee.
Note 27% is for financing and R&Rs.

Future Facility R&R Funding					
Total Facility Costs		$155,387,500			
Annual R&R Allocation [3]	1.50%	$2,330,813			
Estimated Years	10	$23,308,125			
Allocation of Existing Costs to New Development [2]	**50.00%**	**$11,654,063**	**13,043**	**$894**	**$16,342**

[1] A portion of the proposed $50 million State Grant that may be available for construction. This also includes wastewater treatment connection fees currently available to fund new construction.
[2] Costs shared by future EDUs.
[3] Costs shared by existing and future EDUs.
[4] Assumes OPUD may have to finance at least half of the future capital facility costs.

EXISTING SITE PLAN



LEGEND

Existing Wastewater Treatment Plant Facilites

Notes:
RAS = Return Activated Sludge
WAS = Waste Activated Sludge

Service Layer Credits:
OpenStreetMap: Map data © OpenStreetMap contributors, Microsoft, Facebook, Google, Esri Community Maps contributors, Map layer by Esri
World Imagery: Microsoft, Vantor

N

0 200 400

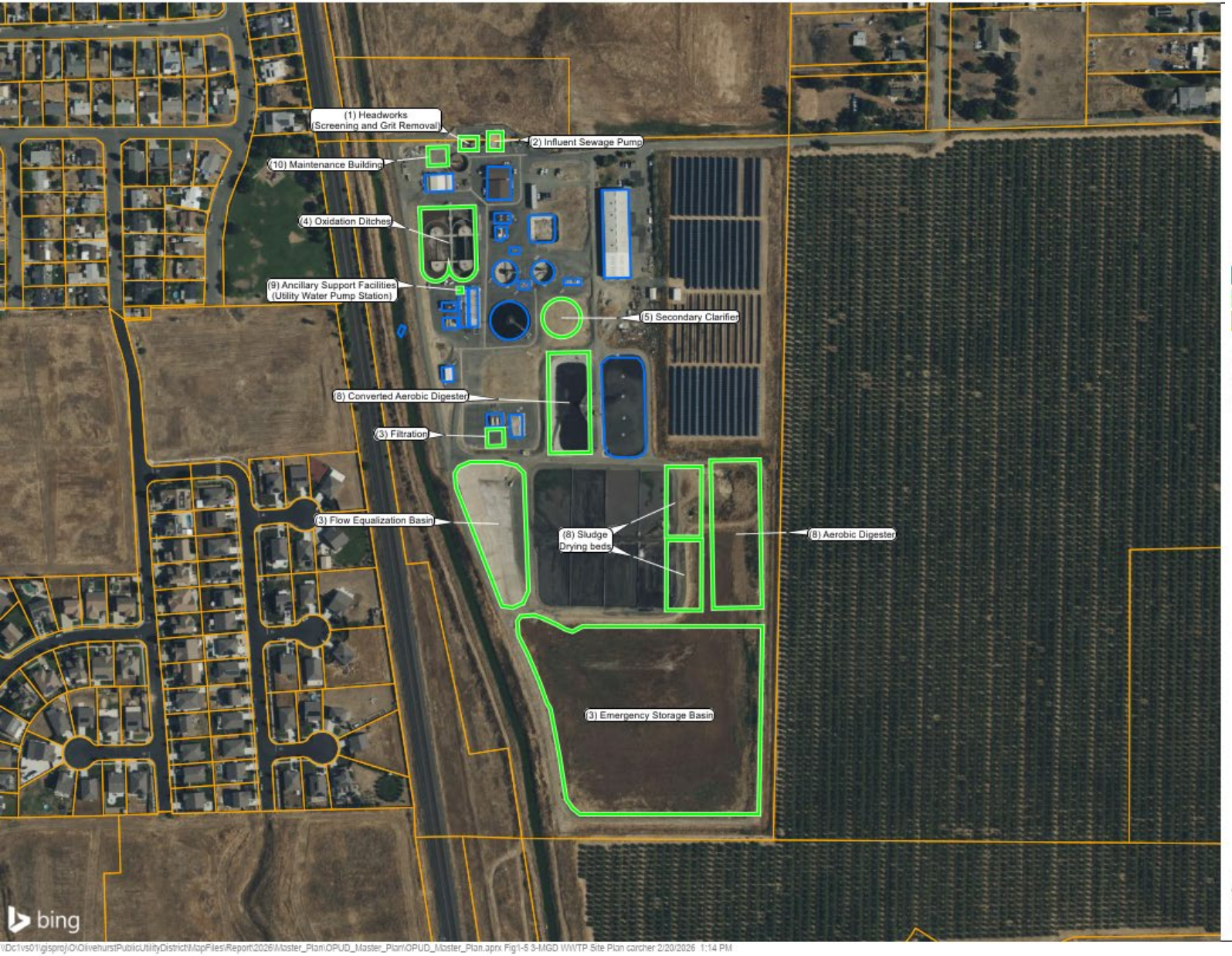
Feet

FIGURE 1-3
Aerial View of Existing OPUD WWTP
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

\\Dc1vs01\gisproj\O\Olivehurst Public Utility District\MapFiles\Report\2026\Master_Plan\OPUD_Master_Plan\OPUD_Master_Plan.aprx Fig1-3 Aerial View of Existing OPUD WWTP carcher 2/17/2026 7:46 PM

CONTRACT No.3 SITE PLAN



LEGEND

- Existing WWTP Facilites
- OPUD WWTP Improvements
- Parcels

Notes:
MGD = Million Gallons per Day
RAS = Return Activated Sludge
WAS = Waste Activated Sludge
WWTP = Wastewater Treatment Plant

Service Layer Credits:
OpenStreetMap: Map data © OpenStreetMap contributors, Microsoft, Facebook, Google, Esri Community Maps contributors, Map layer by Esri
Bing Maps Aerial: © 2026 Microsoft Corporation © 2026 Maxar ©CNES (2026) Distribution Airbus DS

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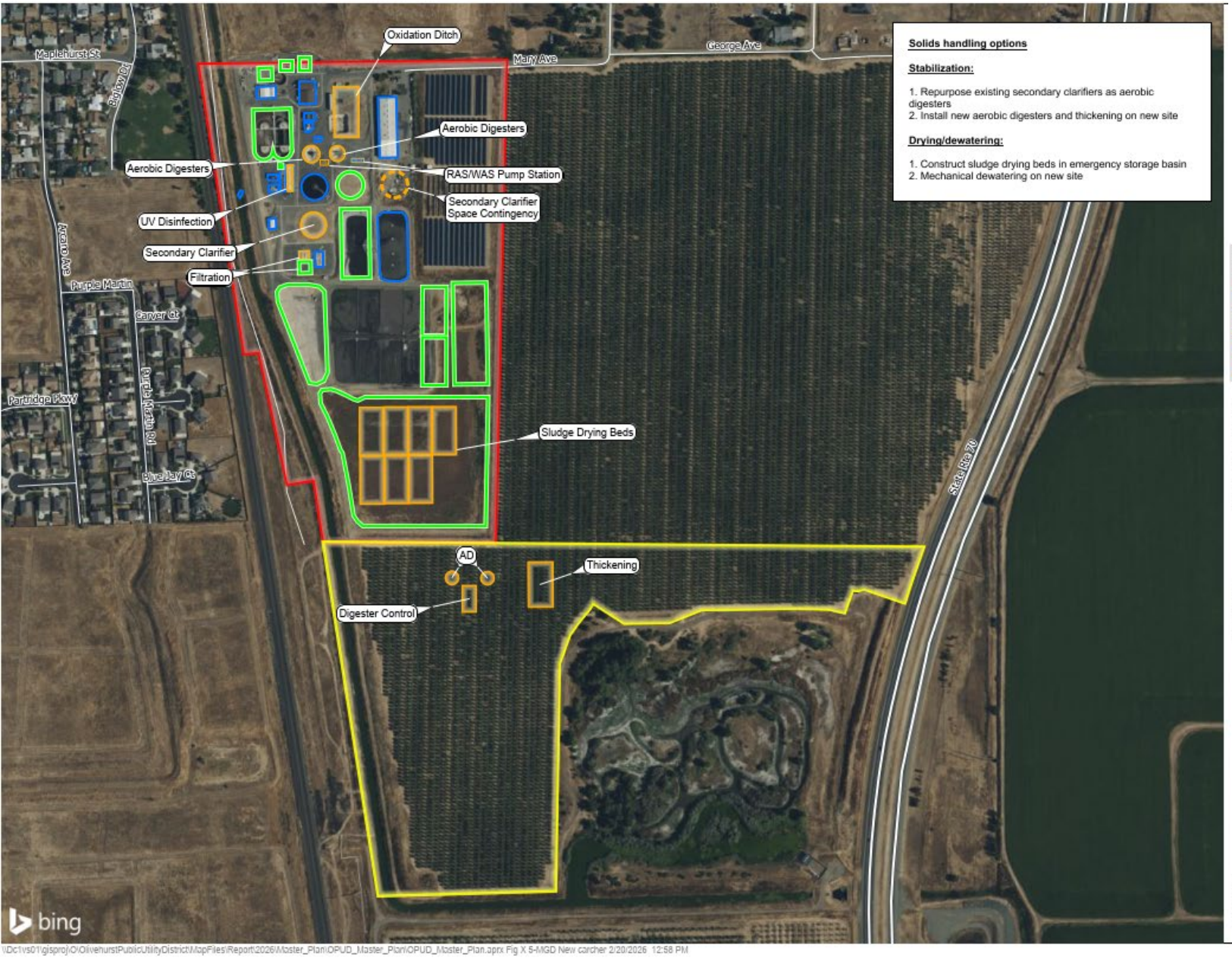
Feet

FIGURE 1-5
OPUD WWTP Improvements Site Plan
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

\\Dc1vs01\gisproj\O\OlivehurstPublicUtilityDistrict\MapFiles\Report\2026\Master_Plan\OPUD_Master_Plan\OPUD_Master_Plan.aprx Fig1-5 3-MGD WWTP Site Plan carcher 2/20/2026 1:14 PM

5 MGD SITE PLAN



Solids handling options

Stabilization:

1. Repurpose existing secondary clarifiers as aerobic digesters
2. Install new aerobic digesters and thickening on new site

Drying/dewatering:

1. Construct sludge drying beds in emergency storage basin
2. Mechanical dewatering on new site

LEGEND

- Existing OPUD WWTP Parcel
- Newly Purchased OPUD WWTP Parcel
- Existing WWTP Facilites
- OPUD WWTP Improvements
- 5-MGD Upgrade WWTP Facilities

Notes:
AD = Aerobic Digester
MGD = Million Gallons per Day
PS = Pump Station
RAS = Return Activated Sludge
UV = Ultraviolet
WAS = Waste Activated Sludge
W2 = Non-Potable Utility Water
WWTP = Wastewater Treatment Plant

Service Layer Credits:
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Bing Maps Aerial: © 2026 Microsoft Corporation © 2026 Maxar ©CNES (2026) Distribution Airbus DS

N

0 350 700

Feet

FIGURE X
OPUD WWTP Improvements
Olivehurst Public Utilities District
Olivehurst, California

Jacobs

\\Dc1vs01\gisproj\O\OlivehurstPublicUtilityDistrict\MapFiles\Report\2026\Master_Plan\OPUD_Master_Plan\OPUD_Master_Plan.aprx Fig X 5-MGD New carcher 2/20/2026 12:58 PM

OPUD WWTP Capital Improvement Plan – 3.0 to 5.0 MGD ADWF (Working Draft)

Other Considerations

- Odor Control
- Dewatering
- Future Biosolids Regs
- Wheatland Connect (9/28)

Table 5-1. Estimate of Probable Construction Costs (3.0 to 5.0 MGD ADWF Expansion)*

Unit Process	Description of Improvement	Opinion of Probable Construction Costs ($M)
Headworks	Add one (1) grit pump and one (1) grit classifier	0.7
Influent Pumping Station	None	-
Secondary Treatment		
Oxidation Ditch	Add one (1) ditch with aerators	17.9
Secondary Clarifier	Add splitter box and one (1) clarifier	9.9
RAS/WAS Pumping		5.0
Filter Influent Pumping Station	New/and expansion of existing station	10.4
Tertiary Filtration		3.1
UV Disinfection		6.3
Post Aeration Channel		3.0
Effluent Pumping Station	None	
Outfall	Add 30-inch outfall	0.6
Utility Water Pumping Station	Placeholder	1.4
Chemical Feed Systems	Placeholder	1.5
Solids Handling	Placeholder – mechanical**	20.7
Emergency Generator	Add one (1) 2000-KW	4.0
	Total	**85**

* Assumes all improvements described in the Predesign Report are installed in Contract No. 3

** Highest cost option listed

Questions?


Olivehurst Public Utility District
OFD
Water, Wastewater, Fire, Parks

Outlook

OPUD Master Plan Update Discussion

From Kennedy, Kevin </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A37BDCB833514041AACCF4169491861F-KENNEDY1, K>

Date Mon 2026-03-02 14:57

To Russ Powell <rpowell@epssac.com>; DeCou, Steve <Steve.Decou@jacobs.com>; Swarnjit Boyal <sboyal@opud.org>; John Tillotson <jtillotson@opud.org>; Barber, Doug <Doug.Barber@jacobs.com>

1 attachment (6 MB)

OPUD Master Plan Update - Preliminary Listing of Improvements and Costs Discussion.pptx;

Team – Below is the updated CIP estimate.

CIP and Timelines for 4 and 3% growth rates

3-5 MGD ADWF Expansion: $85M (today 's dollars)

~~Phase 1 Solids Improvements: $5,640,600~~

4% Growth, Required to be in service: 2035, start construction 3 years earlier, planning 5 years earlier

3% Growth, Required to be in service: 2038, start construction 3 years earlier, planning 5 years earlier

OPUD Funds Available for this CIP to be determine tomorrow during meeting

Please let me know if you have any questions.

Thanks Kevin

Kevin Kennedy, PE | Jacobs | Project Manager | 530.363.8800 cell | Kevin.Kennedy1@jacobs.com | www.jacobs.com

Outlook

[EXTERNAL] RE: OPUD Master Plan Update Discussion

From Russ Powell <rpowell@epssac.com>
Date Fri 2026-04-10 10:38
To Kennedy, Kevin <Kevin.Kennedy1@jacobs.com>

This Message Is From an External Sender
This message came from outside your organization.

Hello Kevin,

With the letting of the two contracts we have calculated $10,079 (not including admin fee).

RUSS POWELL *(HE/HIM/HIS)*
SENIOR VICE PRESIDENT

Economic & Planning Systems (EPS)
455 Capitol Mall, Suite 701
Sacramento, CA 95814

T 916-649-8010

C 916-813-6071

From: Kennedy, Kevin <Kevin.Kennedy1@jacobs.com >
Sent: Friday, April 10, 2026 9:01 AM
To: Russ Powell <rpowell@epssac.com >
Subject: FW: OPUD Master Plan Update Discussion

Hi Russ – Have you worked out the connection fee yet? I was interested in the results if you have them. Even a rough order of magnitude would help.

Thank you Kevin

From: Kennedy, Kevin
Sent: Monday, March 2, 2026 1:58 PM
To: Russ Powell <rpowell@epssac.com>; DeCou, Steve <Steve.Decou@jacobs.com>; Swarnjit Boyal <sboyal@opud.org>; John Tillotson <jtillotson@opud.org>; Barber, Doug <Doug.Barber@jacobs.com>
Subject: OPUD Master Plan Update Discussion

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Thanks Kevin

Kevin Kennedy, PE | Jacobs | Project Manager | 530.363.8800 cell | Kevin.Kennedy1@jacobs.com | www.jacobs.com

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