

WASTEWATER TREATMENT FACILITY UPGRADE/EXPANSION

CEQA INITIAL STUDY

DRAFT

May 16, 2019

SAN MIGUEL COMMUNITY SERVICES DISTRICT



Prepared by:

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PRELIMINARY LIST OF FIGURES STILL NEEDED *(to be added after future analysis)*

-Proposed Facilities

-Impact Area (permanent and temporary)

-Habitat Map

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1 Introduction

1.1 Project Purpose and Need

San Miguel Community Services District (SMCSD) proposes upgrading and expanding their existing wastewater treatment plant (WWTP) in San Miguel, CA to: (A) meet the Central Coast Regional Water Quality Control Board (Regional Board) existing and anticipated waste discharge requirements (WDRs), (B) provide sufficient treatment for effluent flows up to the 30-year projected average daily flow of 0.470 MGD, and (C) provide recycled effluent which meets the requirements for either agricultural irrigation or groundwater recharge purposes. SMCSD completed an Upgrade/Expansion Engineering Report in January 2019 that details upgrades to their WWTP to bring it to compliance with WDR Order No. 99-046.

The primary components of the proposed upgrades are:

- Upgrade of wastewater and solids treatment systems
- Expansion of the WWTP treatment capacity
- Implementation of recycled water treatment systems

The WWTP is operated under the Central Coast Regional Water Quality Control Board (Regional Board) waste discharge requirements (WDRs) Order No. 99-046. The current WDR was issued over 15 years ago, and it is anticipated that the Regional Board will update the WDRs at some point in the near future. The WWTP underwent the most significant upgrade in the late 1990s, bringing its current and permitted capacity to 200,000 GPD (0.2 MGD). The District currently treats an average of approximately 170,000 GPD. The District acknowledges that the existing WWTP is nearing capacity and requires an expansion and upgrade.

In June 2018, the Regional Board issued a letter to the District in which they informed the District that they should proceed immediately with the planning and engineering for the expansion of the existing WWTP. In the referenced letter, the Regional Board stated that because the existing WWTP has been chronically out of compliance with permits for total dissolved solids, chloride, and sodium, the District should include salt and nitrogen removal capability in the expansion plans.

In addition to the expanded and enhanced treatment capacity that the District needs to achieve as a consequence of continued population growth within the District boundaries, the District Board of Directors also understands that the expansion and upgrade of the WWTP must also be accomplished in a manner which is compatible with the requirements of the Sustainable Groundwater Management Act (SGMA). For these reasons, the District is also evaluating treatment alternatives to provide recycled effluent which meets the requirements for either agricultural irrigation or groundwater recharge purposes.

1.2 Purpose of the Initial Study

An initial study is an informational document used in planning and decision making. The initial study is not intended to recommend approval or denial of the project. Monsoon Consultants has prepared this initial study for the San Miguel Community Services District to determine if the project would have a significant effect on the environment. The purposes of the initial study are to:

- Provide the lead agency with information to use in deciding whether to prepare an EIR or negative declaration;
- Enable the lead agency to modify the project to avoid adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a negative declaration;
- Document the factual basis for finding, in a negative declaration, that a project will not have a significant impact on the environment.

1.3 Scope of this Study

The WWTP Upgrade/Expansion Engineering Report was completed in January 2019. In general, this document covers the preferred alternatives in the report. This project-specific CEQA initial study was prepared to ensure detailed project-specific coverage and public disclosure under CEQA.

This study focuses on the environmental issues identified as possibly significant on the CEQA checklist and by CEQA guidelines. A complete project description is included in Section 4 of this report. All subject areas of concern relevant to the SMCSD WWTP Upgrade and Expansion Project are analyzed in Section 5. The project is being implemented to comply with the state and regional water quality regulations and to ensure public health is protected. Particular areas of concern, such as [*water quality, sensitive plant and animal species, cultural resources, noise, etc.*] are examined in greater depth.

Field surveys to support the analyses presented in this CEQA document were conducted on both the existing SMCSD WWTP site (____ acres) and the expansion site (____ acres).

- *____ studies were conducted by ____ on the following dates: ____*
- *[soils, wetlands, and terrestrial and aquatic biological surveys; botanical surveys; cultural resources and archaeological surveys; mapping of water resources (drainages, creeks, and wetlands), wildlife habitats (including habitats for sensitive animal species), and potential cultural resources; noise]*

2 Project Summary

PROJECT TITLE:

San Miguel Wastewater Treatment Plant Upgrade and Expansion Project

LEAD AGENCY:

San Miguel Community Services District
1150 Mission Street
San Miguel, CA 93451

Contact: Rob Roberson, Interim General Manager

Phone: (805) 467-3388

Email: rob.roberson@sanmiguelcsd.org

PROJECT LOCATION:

The current and expansion WWTP property is located close to the northern limits of San Miguel, San Luis Obispo County, California; Township 25S, Range 12E, Section 16. The site is bordered by Union Pacific railroad tracks to the west and the Salinas River to the east. The centroid of the project area is 35° 45' 37" North, 120° 41' 35" West.

GENERAL PLAN LAND USE/ZONING DESIGNATION:

Public Facility/Residential Suburban (refer to Figure 3)

DESCRIPTION OF PROJECT:

San Miguel Community Services District (SMCSD) proposes to upgrade and expand their existing wastewater treatment plant (WWTP) to: (A) meet the Central Coast Regional Water Quality Control Board (Regional Board) existing and anticipated waste discharge requirements (WDRs), (B) provide sufficient treatment for effluent flows up to the 30-year projection average daily flow of 0.470 MGD, and (C) provide recycled effluent which meets the requirements for either agricultural irrigation or groundwater recharge purposes. SMCSD completed an Upgrade/Expansion Engineering Report in January 2019 that details upgrades to their WWTP to bring it to compliance with WDR Order No. 99-046.

The primary components of the proposed upgrades are:

- Upgrade of wastewater and solids treatment systems
- Expansion of the WWTP treatment capacity
- Implementation of recycled water treatment systems

A detailed description of the proposed upgrades can be found in Section 4.4.3.

SURROUNDING LAND USES AND SETTING:

Surrounding uses include residential areas to the west and south and open areas associated with the riparian corridor of the Salinas River to the north and east.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED:

Additional subsequent approvals and other permits that may be required from local, regional, state, and federal agencies are identified below:

- County of San Luis Obispo for approval of grading/building permits
- State Water Resources Control Board
- Central Coast Regional Water Quality Control Board
- San Luis Obispo County Air Pollution Control District

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Tribal Cultural Resources | <input type="checkbox"/> Utilities/Service Systems |
| <input type="checkbox"/> Mandatory Findings of Significance | | |

3 CEQA Determination

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: _____ Date: _____

Printed Name: _____ For: _____

4 Project Description

4.1 Overview

The San Miguel Community Services District (SMCSD) San Miguel Wastewater Treatment Plant (WWTP) Upgrade and Expansion Project (project) consists of the development of necessary facility upgrades that are required to comply with Waste Discharge Requirements Order No. 99-046, provide sufficient treatment for effluent flows up to the 30-year projection average daily flow of 0.470 MGD, and provide recycled effluent which meets the requirements for either agricultural irrigation or groundwater recharge purposes. The project location, background, objectives, and components are described in more detail below.

4.2 Project Location

The current and expansion WWTP property is located close to the northern limits of San Miguel, San Luis Obispo County, California. The regional location of the project site is shown in Figure 1. The site is bordered by the Union Pacific Railroad to the west, the Salinas River to the east, residences on Benedict Street to the south, and open space to the north. The existing WWTP area consists of two parcels (Assessor's Parcel Numbers (APNs): 021-051-013 and 021-051-015), and the expansion WWTP property includes two additional parcels (APNs 021-051-016 and 021-051-017). The existing and expansion properties are shown in Figure 2. The total area is approximately 38.4 acres. The approximate elevation of the project parcels is 600 feet. The project impact area (PIA) associated with the proposed project encompasses approximately [*square feet* (*acres, TBD with site plan*)] on the existing and expansion properties. Regional access to the project site is provided by Highway 101. Vehicular access to the project site is provided by Bonita Place.

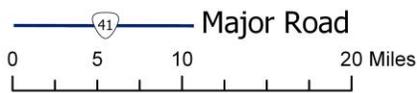
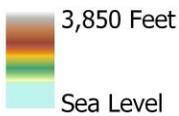
The 19-acre WWTP site (APNs 021-051-013 and 021-051-015) is located north of Benedict Street. The site is partially developed with approximately 10 acres of existing WWTP facilities. Land use is designated as public facilities, as shown in Figure 3. The WWTP site is within the San Miguel USGS 7.5" Quadrangle at approximately 35° 45' 34" N and 120° 41' 35" W in Township 25S, Range 12E, Section 16. Improvements on this parcel include [*TBD with site plan*].

The 19.4-acre expansion property (APN 021-051-016 and 021-051-017) is located directly north of the current site. The expansion site is currently undeveloped and has a designated land use of residential suburban, as shown in Figure 3. The expansion site is within the San Miguel USGS 7.5" Quadrangle at approximately 35° 45' 39" N and 120° 41' 35" W in Township 25S, Range 12E, Section 16. Improvements on this parcel include [*TBD with site plan*].



Legend

Elevation



Regional Location Map

San Miguel Community Services District



Figure 1. Project Vicinity Map

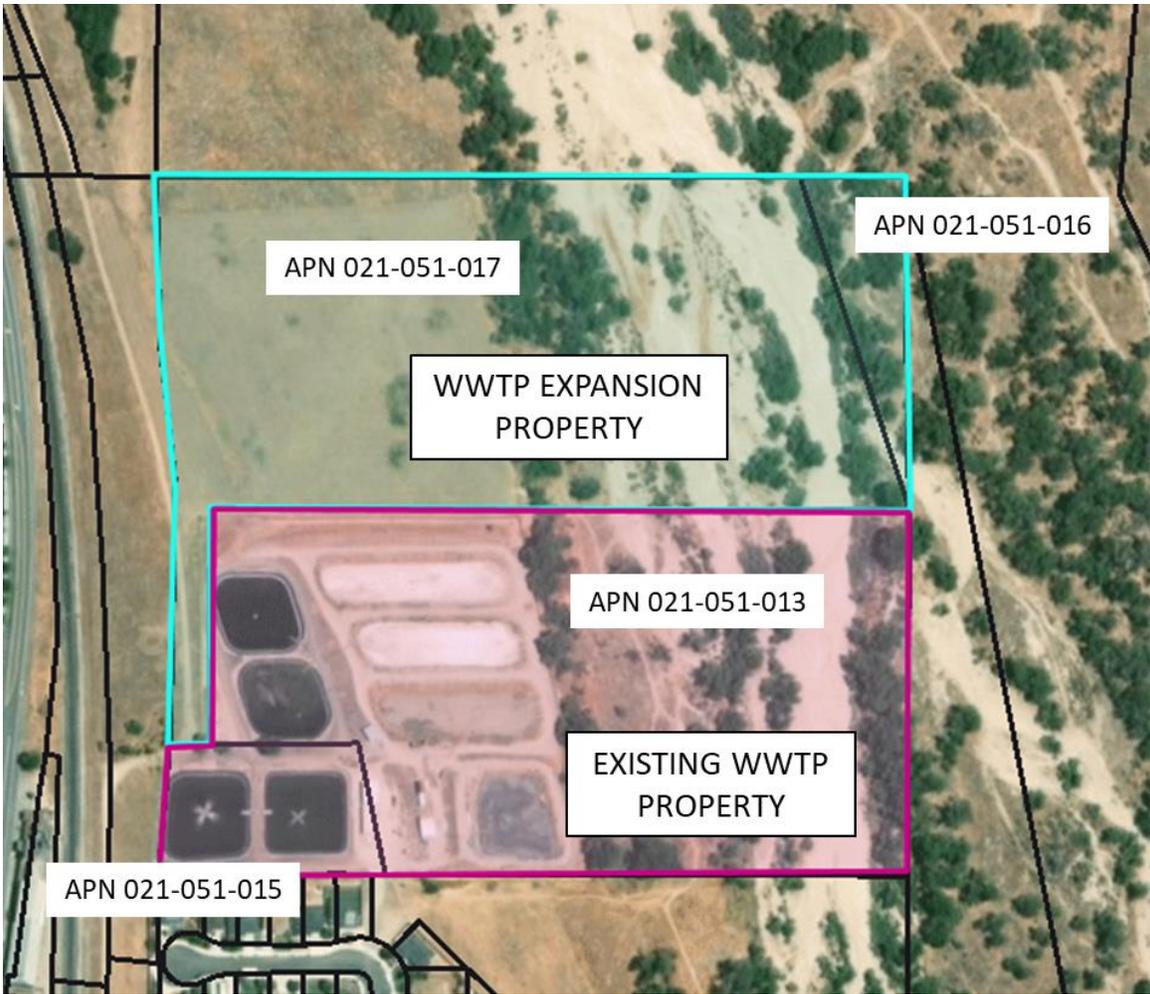


Figure 2. Existing and expansion WWTP areas.

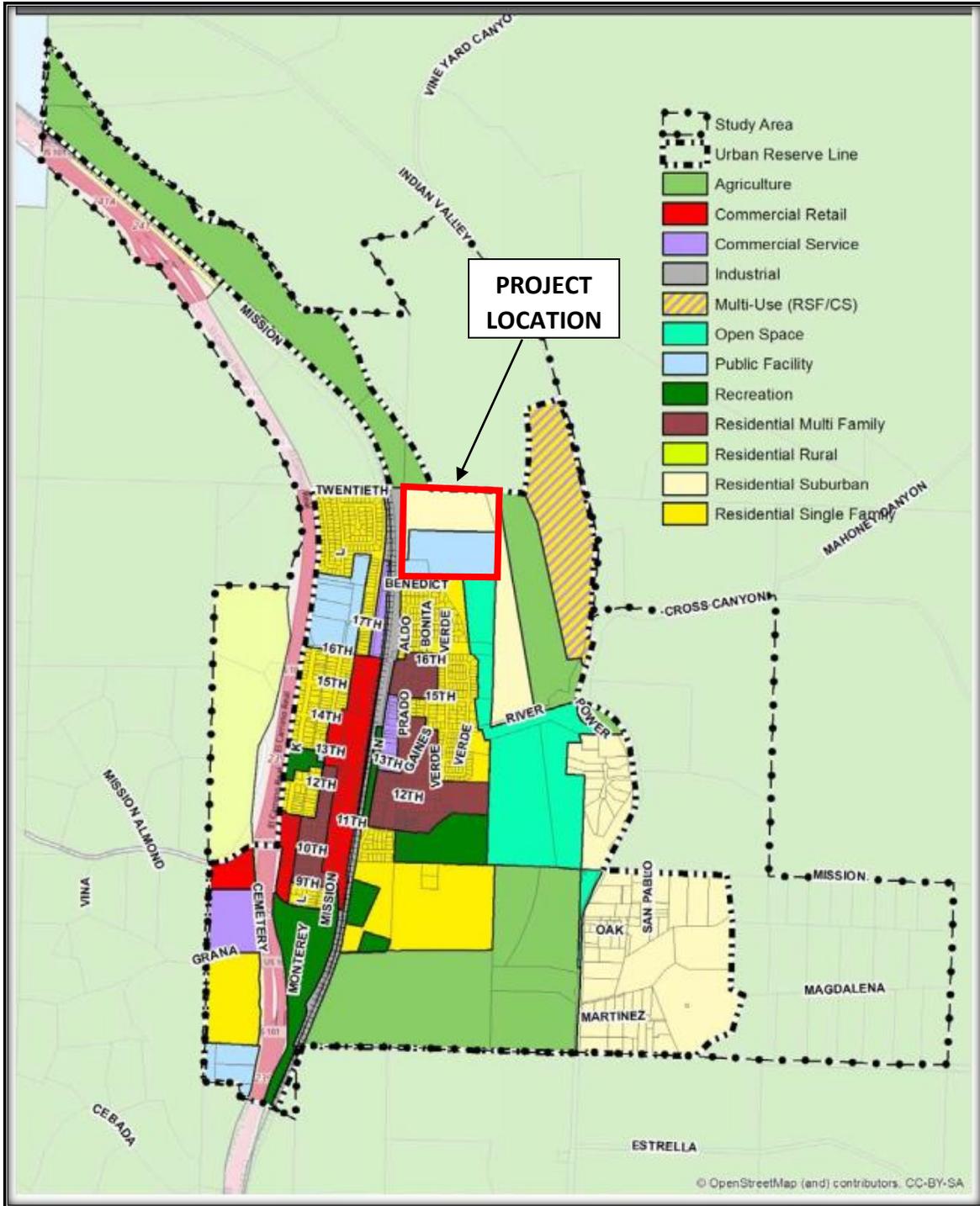


Figure 3. SMCSD land use map.

4.3 Project Background

4.3.1 WWTP Service Area, Wastewater Flows, and Treatment Capacity

The service area for the WWTP consists of only the main area of San Miguel, west of the Salinas River. The parcels within the SMCSD service area which are located on the east side of the Salinas River are currently served by on-site wastewater treatment systems (OWTS). A graphical depiction of the general service areas and facility locations is presented in Figure 4.

In the main zone, there are currently six (6) OWTS. On the east side of the Salinas River, in an area designated the San Lawrence Terrace (SLT), there are a total of sixty-five (65) OWTS. At this time, it is not expected that SLT residents will be served in the near future by the public wastewater facilities, however, there are provisions to accommodate a carrier pipe for a new sanitary sewer in the future River Road bridge crossing of the Salinas River, should the need arise. As for the six (6) OWTS in the main zone, it is planned that these will be served by the wastewater plant in the future.

The existing WWTP underwent a significant upgrade in the late 1990s, bringing its current and permitted capacity to 200,000 gallons per day (GPD) (0.2 million gallons per day (MGD)). SMCSD currently treats an average of 170,000 GPD of wastewater.

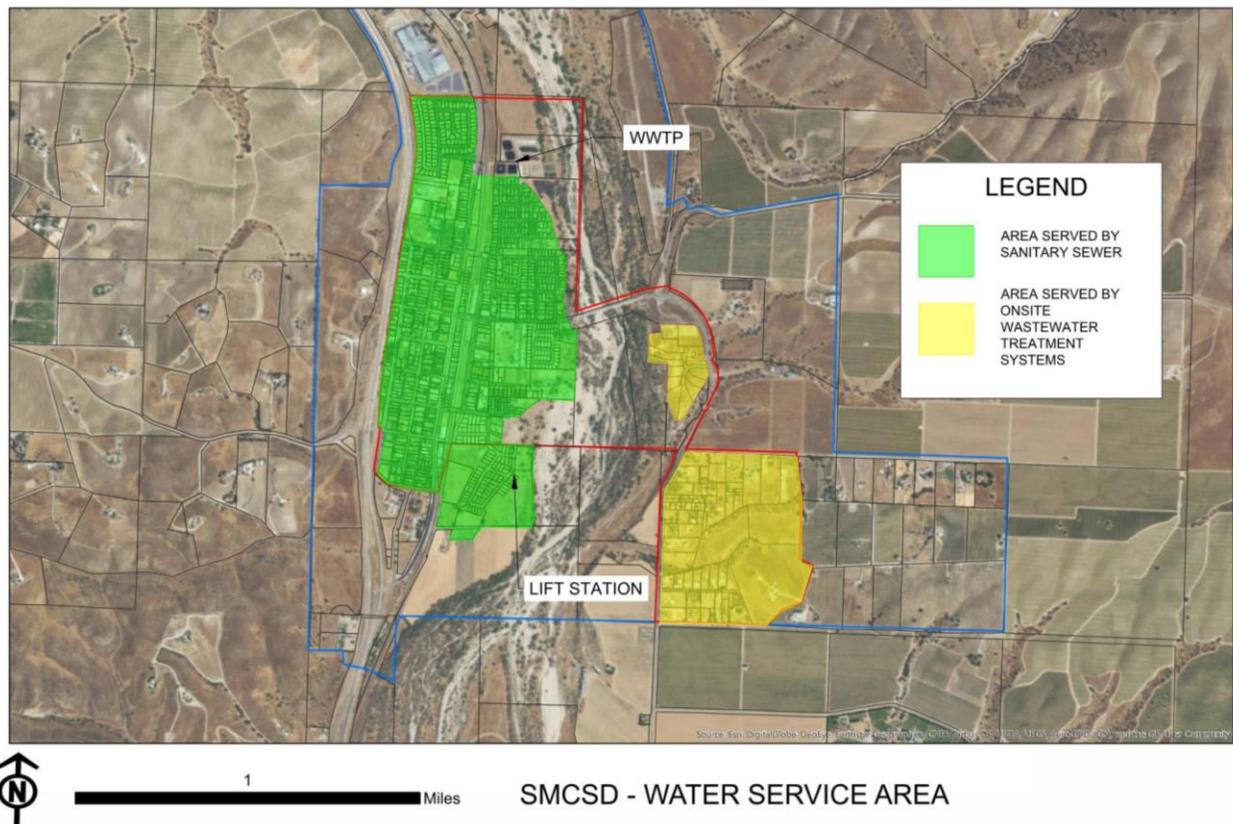


Figure 4. SMCSD sanitary sewer service areas.

4.3.2 Existing Facilities

The existing WWTP consists of four (4) partially mixed aerated lagoons in series (though the first two lagoons are piped to also operate in parallel) and three (3) percolation ponds. The wastewater effluent discharges into the percolation ponds. The WWTP layout is presented in Figure 5.

The major elements which comprise the SMCS D WWTP are summarized as follows:

- *Headworks:* At this time, there isn't a headworks associated with this plant, only influent pumping/metering of wastewater. Raw wastewater is pumped from the influent wet well/lift station to the first aerated treatment pond.
- *Aerated Treatment Ponds, Stage 1:* There are two 0.94 million gallon (MG) aerated aerobic ponds, equipped with 25 and 20 horsepower pumps (HP), respectively. These are completely mixed aerated lagoons. Thus, the floating aerators keep all solids in suspension while maintaining dissolved oxygen levels. Solids do not appreciably deposit in Ponds 1 and 2, but instead settle out predominantly in Pond 3. Floatable plastics and debris must be raked out of these ponds by hand.
- *Aerated Treatment Ponds, Stage 2:* There is a single 0.87 MG Stage 2 pond equipped with a 7.5 HP aerator. This pond and floating aerators maintain dissolved oxygen levels in the pond, while allowing solids to settle to the bottom of the pond. Solids settle to the bottom of the pond, and organic matter in the sludge slowly decomposes anaerobically. This pond is generally referred to as a facultative pond, with an upper aerobic zone and lower anaerobic zone.
- *Aerated Treatment Ponds, Stage 3:* There is a single 0.87 MG Stage 3 pond equipped with a 7.5 HP aerator. This is the final (fourth) pond that also maintains dissolved oxygen levels in the upper zone. Very little sludge settles in this pond, and this pond is considered a final polishing pond prior to discharge to the percolation ponds/beds.
- *Percolation Ponds:* There are three (3) percolation ponds totaling 1.7 acres in area. The two northernmost ponds were re-conditioned in 2008. At that time, both ponds had silted up considerably and were not effectively percolating effluent. Both ponds were dried out and ripped, and the upper several feet of material were removed and replaced with clean sand. In addition, the percolation ponds were deep-ripped in several locations to allow for better connectivity to the underlying more permeable soils. The third and southernmost pond was not re-worked at that time but continues to serve as a percolation pond.
- *Biosolids Disposal:* Although some biosolids accumulate in each of the aerated treatment ponds, the majority accumulates in Pond 3. When deemed appropriate by the WWTP operations staff, the biosolids are pumped from Pond 3 to the existing sludge drying basin. After drying and stabilization, the biosolids are transported to a local landfill for disposal.



Figure 5. Existing WWTP facilities.

4.3.3 Water Quality Regulations and Waste Discharge Requirements (WDRs)

The SMCSO owns and operates the WWTP under the Central Coast Regional Water Quality Control Board WDR Order No. 99-046. At the time the WDRs were issued, they were issued to the San Miguel Sanitary District, which was dissolved in the early 2000s, and subsequently the District resumed all wastewater responsibilities in the SMCSO service area. The existing facility was upgraded during this time frame to include the fill expansion described in Finding No. 5 of the WDRs, which included the construction of the second of two 940,000 gallon aerated lagoons. The permitted treatment capacity is 200,000 GPD (0.2 MGD) on a maximum month basis. As these WDRs are approximately 15 years old, it is anticipated that the Regional Board will update the WDRs at some point in the near future. The current requirements of the WDRs are summarized as follows:

- Permitted treatment capacity, MGD 0.2 (max. month)
- Effluent limitations: Avg. last 6 samples Maximum

TDS, mg/L	825	900
Chloride, mg/L	180	200
Sulfate, mg/L	175	200
Sodium, mg/L	150	170
- The treatment ponds must maintain a minimum 2.0 feet freeboard at all times, and must maintain dissolved oxygen of 1.0 mg/L minimum at all times.
- Effluent pH shall range between 6.5 and 8.4 at all times.

- Discharge shall not cause nitrate concentrations in downgradient groundwater to exceed 5 mg/L (as N)
- Discharge shall not cause “significant” increase in TDS.

Under the current WDRs, the SMCSD is not required to sample influent or effluent organic waste strength parameters (total suspended solids (TSS) or biological oxygen demand (BOD₅)). However, the District must submit quarterly monitoring reports, and submit an annual report summarizing the past year’s effluent and disposal area monitoring.

4.4 Description of Proposed Project

4.4.1 Project Objectives

The SMCSD has the following objectives for the proposed project:

- Improve the quality of water the SMCSD discharges, so that the SMCSD is prepared to comply with any more stringent discharge requirements (WDRs) prescribed by the State of California;
- Expand the WWTP to accommodate anticipated population growth within San Miguel;
- Upgrade the WWTP to produce tertiary 2.2 quality recycled water, as defined by California’s Title 22 recycled water regulations, to provide for recycling of some or all of the water, instead of discharging it to the percolation ponds.

4.4.2 Treatment Capacity and Effluent Quality

The proposed WWTP will increase the effective treatment capacity from its current 0.2 MGD to the design and permitted capacity of 0.6 MGD. The proposed WWTP will have the capacity to treat flows based on the 30-year planning horizon, with an average daily flow of 0.470 MGD. The current and projected flows are summarized in Table 1.

Table 1. Existing and projected wastewater flows and population increase.

Flow Condition	Peaking Factor	Existing Flow (MGD)	Projected Flow (MGD)			
			2023	2028	2035	2050
Average Daily Flow (ADF)	--	0.170	0.195	0.210	0.255	0.470
Maximum Day Dry Weather Flow (MDDWF)	1.25	0.213	0.244	0.263	0.319	0.588
Maximum Day Wet Weather Flow (MDWWF)	1.5	0.255	0.293	0.315	0.383	0.705
Peak Hour Wet Weather Flow (PHWWF) (GPM)	3.5	413	474	510	620	1142
Estimated Population Served	--	2700	3000	3350	3700	6300
Estimated Number of sewer connections	--	765	850	900	1050	1800
Annual Discharge (AC-FT)	--	190	220	240	290	530
Annual Discharge (AC-FT) w/ Gallo Wastewater	--	230	260	280	330	570

¹ Projected ADF, population increase, and sewer connections are based on SMCS D Water & Wastewater Masterplan Update, Land Use in San Miguel (Monsoon Consultants, November 2017)

² It should be noted that the peaking factor for computing the MDWWF for future conditions was reduced from 4.0 to 3.5.

³ *The PHWWF in this table is corrected from the PHWWF in the Engineering Report. The numbers will be reconciled to match in future versions of the reports.*

⁴ The system flow, up to 2035, is based upon a usage of 65 gallons per capita per day (GPCD). From 2050, the average usage is increased to 75 GPCD because it is estimated that new developed area will use more water compared to the current socioeconomic community that is present today.

⁵ The projected treatment system life expectancy is roughly 25-30 years.

The WWTP will produce effluent that is in compliance with the current and projected WDRs. Based on other pond systems in this region, if WDRs were updated and such effluent limitations were imposed, this WWTP would likely see effluent limitations of “30/30/10”, that is, effluent limitation of 30 mg/L BOD₅, 30 mg/L TSS, and 10 mg/L total nitrogen.

The WWTP will produce 2.2 quality recycled water for irrigation use or groundwater recharge. The reclaimed water supply would be used to offset existing groundwater pumping from the Paso Robles Groundwater Basin. Reclaiming wastewater is consistent with the goals of the Paso Robles Groundwater Sustainability Agencies to reduce groundwater pumping in the future to help achieve groundwater sustainability under the requirements of the Sustainable Groundwater Management Act (SGMA) which was signed into law in 2014.

In addition to the potential benefits to the Paso Robles Groundwater Basin that could occur by offsetting existing and future agricultural groundwater pumping, the distribution of reclaimed water by the District to large land areas, in lieu of disposing of the treated effluent into percolation basins, will eliminate the localized salt loading to the shallow subsurface that occurs under existing conditions.

No significant reduction in salt (or TDS) concentrations is anticipated to occur with the proposed WWTP expansion/upgrade. Under a scenario whereby the reclaimed water supply would be conveyed to local vineyards and blended with irrigation groundwater supplies from vineyard

supply wells, blended irrigation water could be produced that is suitable for vineyard irrigation. The resulting load of salts (and other TDS) could be substantially reduced as the blended reclaimed water is distributed over extremely large land areas and preclude the localized percolation of waters with elevated salt concentrations. The potential benefits of this approach include the following:

- Recycled water that meets Title 22 Disinfected Secondary Standards can be used for vineyard drip irrigation systems;
- Mixing recycled water with well water produced by vineyards will produce an irrigation supply that is suitable for vine health;
- Mixing water will eliminate the percolation of effluent with high salt concentrations into the groundwater aquifer;
- Distributing the produced mass of salt over a significant area will reduce the adverse impact on the groundwater basin;
- Using recycled water will reduce pumping from nearby vineyard irrigation wells;
- Recycled water is a potential significant long-term income source for the District.

The District is also considering blending treated effluent with surface water from the Salinas River to reduce salt concentrations and create a water supply that is suitable for vineyard irrigation.

P – (TBD):

- *new recycled water (mgd) and quality of water*
- *progress 1 to 10 years after completion*
- *progress after 10 years (amt. recycled)*
- *progress after 20 years*

4.4.3 Proposed Facilities

As described in the SMCSD WWTP Upgrade/Expansion Engineering Report, the proposed project consists of various upgrades to the existing WWTP. A site plan showing the location of the various components is presented in [*site plan, TBD*] and a process flow diagram of the improved WWTP treatment process is shown in Figure 6. The modifications to the WWTP are categorized as either Membrane Bioreactor and Sludge Management or Ancillary Site Improvements. The WWTP modifications are described in the following sections.

4.4.3.1 Membrane Bioreactor and Sludge Management

[This section will be updated if needed during the design phase of the project]

- *Membrane Bioreactor (MBR):* MBR is a technology that has become popular within the last 10-15 years. MBR includes biological treatment with activated sludge. Solids separation is accomplished with membranes integral to the biological system rather than conventional secondary clarifiers. The submerged membranes are operated under vacuum with product water drawn through the membranes with permeate pumps or using a gravity-

assist siphon system. The solids remaining on the surface of the membranes are returned to the head of the aeration basins. A portion of the solids are wasted just as with conventional activated sludge. MBRs require finer screening (2mm screens) than conventional activated sludge to remove hair and other fine materials that can wrap around and clog the membranes.

MBR membranes provide a barrier to solids; therefore, an MBR produces higher quality product water (better than conventional tertiary filtration) and does so more consistently than conventional activated sludge clarifiers, which are subject to upsets. The positive solids barrier also allows operation at high solids loading rates, which results in a smaller treatment footprint.

- *Sludge Management:* The proposed expansion/upgrade will utilize an aerobic digester for sludge treatment, stabilization, and volume reduction before being dewatered using a screw press or sludge container filter (i.e. sludgebox). The dewatered sludge will be transported to a local landfill for disposal.
- *UV Disinfection:* Ultraviolet (UV) disinfection uses UV radiation (light) to destroy or inactivate disease-causing organisms. Typically, UV disinfection systems for wastewater are designed in open channels with banks of lamps mounted in modules or support racks. The wastewater is treated by UV radiation as it flows by gravity through the channel.

While several configurations of UV disinfection exist for recycled water (open channel, in-vessel, and microwave), in-vessel UV was evaluated as the UV option for this facility based on the applicability for this size of facility. In-vessel UV has been approved by the State Department of Public Health for recycled water disinfection. It also has a small footprint requirement, requires minimal operator attention and reduced maintenance compared with chlorination, and is not known to form disinfection byproducts (DBP).

4.4.3.2 Ancillary Site Improvements

[This section will be updated during the design phase of the project]

- *Headworks:* The existing WWTP is not equipped with a headworks and all solids and grit that are conveyed to the plant through the sanitary sewer collection system are passed onto the existing treatment ponds where they adversely impact the treatment processes. Influent screens provide a physical barrier between the influent sewer and the wastewater treatment plant site piping and equipment. The function of an influent screen is to remove large solids that could potentially damage downstream treatment equipment. For example, downstream pumps or mechanical mixing and aeration equipment are vulnerable to problems from rags and other large, stringy solids, which could wrap around equipment motor shafts or impellers and cause failures. With equipment out of service, treatment ability is reduced, and it becomes a significant maintenance issue for the facility owners to access and repair the equipment.

The level of treatment is based primarily on the opening size, or space through which the wastewater flows, while retaining solids greater than the opening size. Screens associated with wastewater treatment plants using secondary treatment processes typically have 0.25-inch (6-millimeter) openings. This size provides sufficient screening to protect downstream equipment. The bar screens would operate automatically based on either time or differential water level across the screen. The screenings that are removed from the wastewater by the mechanical screens are deposited onto a conveyor, and the conveyor moves the screenings to a washer compactor where the wet screenings are sprayed with water as they are slowly compacted using a shafted screw. The screenings are dewatered as they are pushed by the screw into a discharge chute. The water removed from the screenings is directed back to the influent and the washed and compacted screenings are deposited into a dumpster for disposal at a landfill. [*There are several types of screens and many manufacturers offer more than one style – design specs are TBD*].

Critical supporting equipment for screens includes washers, compactors, and dewatering equipment to return organics to the downstream processes, reduce odors, reduce screening volume and reduced corresponding disposal cost.

Grit in municipal wastewater consists of sand, gravel, coffee grounds, and other heavy, solid, inorganic materials which have specific gravities or settling velocities greater than organic materials in the wastewater. Grit removal is performed to protect downstream mechanical equipment from abrasion, reduce potential for deposits in pipelines and channels, and reduce frequency of sludge digester leaning caused by grit accumulation. Grit removal is most commonly placed after screening and prior to primary sedimentation and secondary treatment.

- *Lift Station:* A new influent pump station is recommended for the WWTP due to the lack of capacity and age of the existing structural and mechanical components. The new influent pumping station will be constructed as a “wet well” type and equipped with [*multiple (minimum of two (2) pumps)*] submersible pumps.
- *Office and Laboratory Facilities:* The existing WWTP currently does not have any office or laboratory facilities. The proposed expansion/upgrade of the plant will create a requirement for a significantly increased presence by trained and certified staff with expertise in mechanical plant operations and laboratory testing. This increased operator presence and laboratory testing requirements will require that permanent environmentally controlled facilities be constructed at the WWTP site to provide for these activities. [*The specific design, configuration, and specifications for the proposed office and laboratory facilities should be addressed in the design phase of the project*].
- *Additional Maintenance and Equipment Storage/Shop Facilities:* The proposed expansion/upgrade of the plant will require the acquisition of additional equipment that will require regular maintenance and repairs, which will be in addition to the existing equipment inventory. The expansion of the existing plant will result in the addition of new

treatment processes which will require regular maintenance and repair, along with space for the storage of replacement parts, supplies, equipment, tools, etc. [*The specific design, configuration, and specifications for the proposed additional maintenance and equipment storage / shop facilities should be addressed in the design phase of the project*].

- *Environmentally Controlled Electrical and Controls Facilities:* With the expansion and upgrade of the existing WWTP, there will be a requirement to upgrade the existing electrical service and controls infrastructure. Currently, the electrical and controls equipment are located outside and exposed to the weather, with only a shade structure for protection from the elements. It is anticipated that as part of the WWTP expansion, there will be a significant increase in the number and sophistication of the electrical and controls devices and components that will be required for the operation, monitoring and control of the plant. To properly protect the required electrical and controls systems, and to provide an environment where they can be properly serviced and maintained, the proposed WWTP expansion/upgrade should provide for an environmentally controlled facility to house this equipment. [*The specific design, configuration, and specifications for the proposed environmentally controlled electrical and controls facility should be addressed in the design phase of the project*].
- *Upgrade and Modernization of the Electrical, Controls, & SCADA Systems:* As described in the previous paragraphs, with the expansion and upgrade of the existing WWTP, there will be a requirement to upgrade the existing electrical service and controls infrastructure. The existing WWTP, comprised of four (4) surface aerated ponds, requires only basic electrical and controls infrastructure and essentially no automation. The existing SCADA system is utilized primarily for alarm notification to offsite operators and for basic acquisition of operational data. With the increase sophistication and complexity of operations that will occur as a result of the WWTP expansion and upgrade, it will be necessary to upgrade and modernize the electrical, controls, and SCADA systems. It is imperative that the planning and design of these system upgrades be accomplished with comprehensive input from the Districts operations staff to insure that the electrical, controls, and SCADA systems that are ultimately installed are compatible with the capabilities and expertise of the plant operators. [*The specific design, configuration, and specifications for the proposed upgrade and modernization of the WWTP electrical, controls, and SCADA system should be addressed in the design phase of the project. Further, this work should be performed in collaboration and with the technical assistance of representatives from Pacific Gas & Electric (PG&E). Not only can PG&E provide significant technical expertise and assistance during the planning and design phases on the project, but there are financial assistance opportunities that may also be available which will benefit the SMCSD*].
- *Treated/Recycled Effluent Pumping Station:* The SMCSD would like to incorporate effluent reuse and disposal using agricultural irrigation when recycled water demand exists and seasonal land disposal (i.e. percolation ponds) when recycled water demand does not exist. The SMCSD is surrounded by agricultural land use, with the majority of this land

being devoted to wine grape vineyards. The District has been in discussions with several of the larger vineyard owners which are in close proximity to the District WWTP that have expressed a strong interest in the possibility of utilizing recycled effluent to make up a portion of their annual crop irrigation demands.

Based on the discussions that the District has had to date with the larger vineyard owners in the area, it was determined that the most likely scenario for treated/recycled wastewater effluent reuse for vineyard irrigation would require that the District provide the pumping capacity and some transmission pipeline (“purple pipe”) infrastructure to allow for delivery of the recycled effluent to a series of turnouts that would be located in proximity to the vineyard properties to be irrigated. The new treated/recycled effluent pumping station will be constructed as a “wet well” type and equipped with multiple [*minimum of two (2) pumps) submersible pumps. The station design and components to be incorporated will be similar to the influent pumping station described in a previous section of this document*].

- *Back-Up Power Generation Facilities:* The WWTP is a critical component of the SMCSO infrastructure and provisions must be made to ensure that the plant remains operational in the event of a power outage. To ensure that treatment can continue to function properly, the proposed expansion/upgrade of the facility should incorporate an on-site, automatically starting generator, capable of ensuring continuous operation of all critical wastewater treatment system units for a duration equal to the longest power outage on record. [*There are many back-up power systems available and the ultimate selection of the most appropriate system for the District will be dependent on the final configuration of the renovated WWTP. The specific design, configuration, and specifications for the proposed WWTP back-up power generation system should be addressed in the design phase of the project. It is important to note the system ultimately selected, installed, and operated will be required to comply with applicable air quality regulations and be subject to permitting by the California Air resources Board (CARB) and the San Luis Obispo County Air Pollution Control District (SLOAPCD)*].

[*Site plan figure*]

MBR ALTERNATIVE

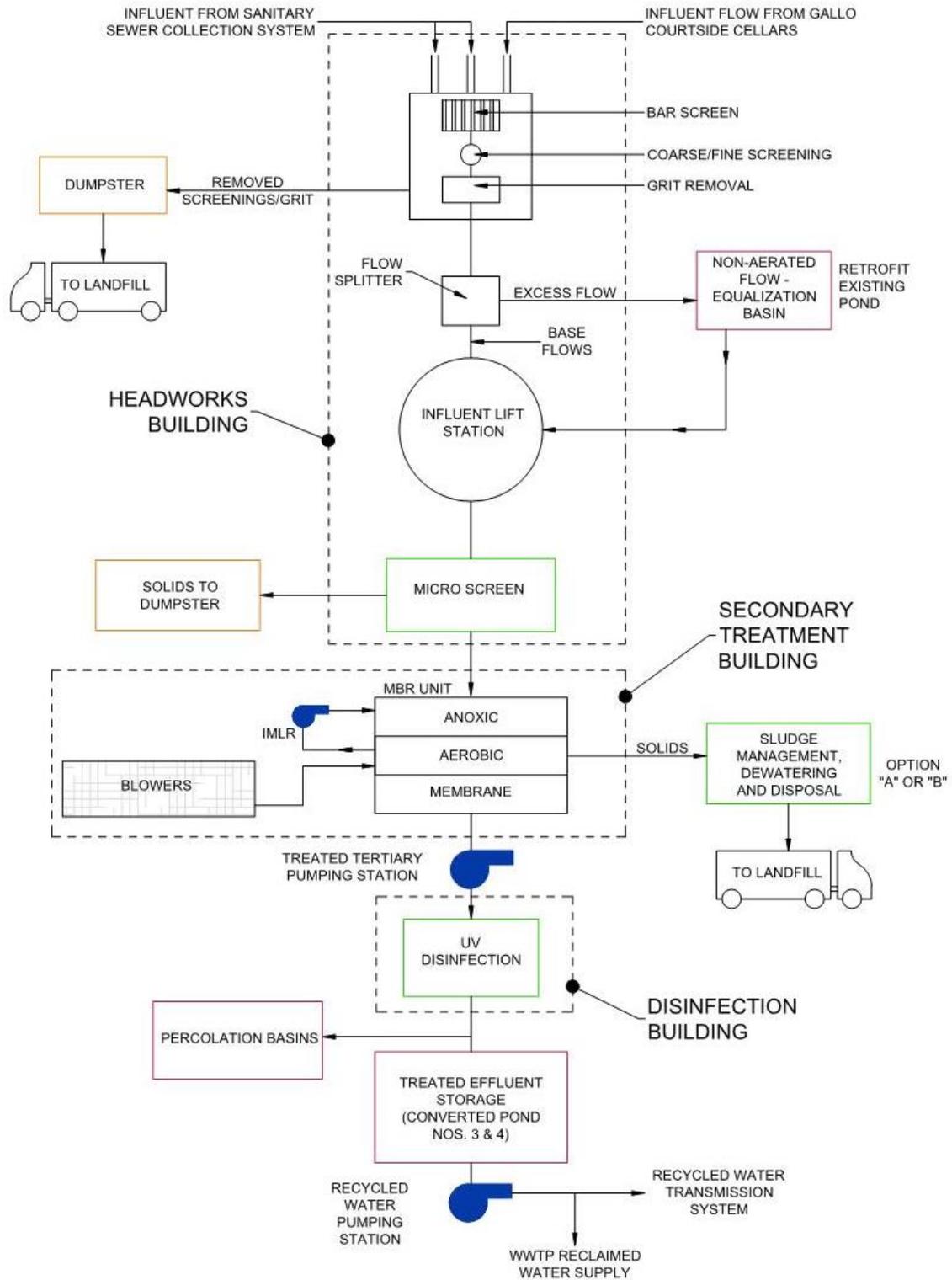


Figure 6. MBR system flow diagram.

4.4.4 Construction

[This section will be updated during the design and planning phase of the project]

P1:

- *Construction limited to Project Impact Area (PIA)*
- *PIA (sq ft & ac) and what it accounts for (all impacts; permanent, temporary)*
- *How much and what areas will be disturbed*

P2:

- *Area of disturbance (sq ft & ac)*
- *Volume of cut/fill (cu. yd.). refer to figures*
- *Volume of soil imported and number of round trips*
- *Dismantling/removal of major structures?*
- *Amount hauled offsite, number of round trips*

P3:

- *Area and location of disturbance*
- *Amount of cut and fill for components*
- *Other structures needed (ex: retaining wall)*
- *Refer to project component figure*

P4:

- *Paving*
- *Vegetation removal*
- *Plant species affected*

P5:

- *Dates of construction*
- *Continued operation of existing WWTP?*
- *Equipment used for construction*

4.4.5 Operation

The proposed improvements would facilitate production of tertiary 2.2 quality recycled water, suitable for use on vineyard irrigation with no contact between edible portion and for other non-potable uses. The proposed tertiary treatment facilities would not increase the potential for odor

formation at the WWTP. The proposed project would facilitate a gradual reduction of wastewater volume.

The impact of this reduced volume of discharge would be offset by the reduced need to pump groundwater. Spreading recycled water over a large land area is a best practice for managing the salt and nutrients contained in treated wastewater/recycled water. In some cases, users of recycled water may utilize the residual nutrients in recycled water for fertigation, which can reduce the need for application of supplemental fertilizer.

The WWTP is currently operated by one SMCSO staff employee. Operation of the proposed project is expected to require one or two additional employees. Implementation of this project is not expected to create a significant increase in traffic during plant operation.

5 Environmental Analysis (Checklist)

5.1 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less-than-Significant Impact”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, “Earlier Analyses”, may be cross-referenced.)

5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify: a. the significance criteria or threshold, if any, used to evaluate each question; and b. the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

5.2 AESTHETICS

5.2.1 Background

The project impact area (PIA) is partially developed with the existing WWTP facilities. The remaining area is undeveloped. The 38.4-acre area is located on the northern end of the town of San Miguel, bordered by the Union Pacific Railroad to the west, the Salinas River to the east, residences on Benedict Street to the south, and open space to the north. The WWTP is accessed from Bonita Place.

The existing facilities include four (4) partially mixed aerated lagoons in series (though the first two lagoons are piped to also operate in parallel), three (3) percolation ponds, a sludge drying area, and four small structures used for pump housing and storage.

The primary new components would consist of new secondary and tertiary treatment facilities at the existing WWTP and on expansion property, as well as ancillary site improvements. The proposed project includes the addition of a membrane bioreactor, UV disinfection, headworks, lift station, and recycled water pumping station.

Views of the PIA are partially screened from the adjacent southern neighborhood by a 6-foot wall. Views of the WWTP as seen from the railroad and Mission Street are mostly clear. There is a warehouse on the east side of Mission Street that partially obstructs the southern end of the existing WWTP site. The existing WWTP contains structures to the east of aerated lagoons 1 and 2 that obstruct the view of the Salinas River from the railroad and Mission Street.

The proposed project would involve the construction of additional structures [*location*] *that would obstruct more of the view?*

[Discussion will be added after architect submittal and site layout]

5.2.2 Regulatory Setting

SAN LUIS OBISPO COUNTY LAND USE ORDINANCE – TITLE 22

Height Limitations

The maximum allowed height for new structures within the category of Public Facilities is 45 feet. Buildings and structures exceeding the permitted height may be authorized through Conditional Use Permit approval, provided the Commission first finds the project will not result in substantial detrimental effects on the enjoyment and use of adjoining properties, and that the modified height will not exceed the lifesaving equipment capabilities of the fire protection agency having jurisdiction.

5.2.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.2.4 Discussion of Checklist Responses

a. [Finding].

The proposed project would involve the construction of additional structures that [*could interfere with scenic views of the Salinas River. Mitigation measures?*]

[*Depends on project layout*]

b. No Impact. The project is located approximately one quarter of a mile east of US 101, however, US 101 is not classified as a state scenic highway in this area (Caltrans 2011). Therefore, no impacts would occur.

c. [Finding – less than significant?].

The existing visual character of the site ranges from industrial/residential to the west and south to rural/undeveloped to the north and east. The PIA is currently partially developed with the existing WWTP, and the remaining area is undeveloped. During construction activities, the presence of equipment and materials would affect the visual character of the property; however, construction impacts would be temporary. Operation of the proposed project would include additional structures on the undeveloped property that are consistent with the existing visual character of the WWTP site.

[*To be updated with project layout and architect submittal*]

d. Less Than Significant With Mitigation. The existing WWTP facilities are a source of light and glare in the project area. The proposed project could contribute additional light and glare to the site with the development of additional facilities. Generation of new lighting would increase the potential for glare visible from US 101 and adjacent areas. The measures described in mitigation measure AES-1 should be used to reduce light and glare. With the implementation of AES-1, impacts would be reduced to less than significant.

Finding. [*finding*]

5.2.5 Mitigation Measures

AES-1: Prior to construction, the City of Paso Robles shall develop an exterior lighting plan, which shall include the height, location, and intensity of all proposed exterior lighting. All light poles, fixtures, and hoods shall be dark (non-reflective) colored. Lighting shall be designed to eliminate any off-site glare. All exterior site lights shall utilize full cut-off, “hooded” lighting fixtures to prevent off-site light spillage and glare.

5.3 AGRICULTURAL AND FOREST RESOURCES

5.3.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.3.2 Discussion of Checklist Responses

a. No Impact. The project site is currently occupied by the existing WWTP; no agricultural uses occur onsite. Underlying soils include Hanford and Greenfield soils (2 to 9 percent slopes), Metz Loamy Sand, and Corducci-Typic Xerofluvents. The Natural Resources Conservation Service (NRCS) does not rate the project site as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Farmland of Local Potential, or Grazing Land (California Department of Conservation 2016). The project site is designated as Urban and Built-Up Land and Farmland of Local Potential based on the Important Farmland Map for San Luis Obispo County (California Department of Conservation 2016). Therefore, no impact to important farmland would occur.

b. Less Than Significant With Mitigation. The PIA is not under the Williamson Act contract (California Department of Conservation 2010). A small portion of the project area on the northeast corner of the site is designated as agricultural use. The project requires obtaining a Conditional Use Permit, as described in Section X (Land Use and Planning), mitigation measure LU-01. With the implementation of mitigation measure LU-01, impacts would be reduced to less than significant.

c. No Impact. The project site and surrounding areas are not zoned for forest land, timberland, or timberland zoned Timberland Production. Therefore, no impacts would occur.

d. No Impact. There are no existing forest lands located on the project site or in the vicinity of the site. Therefore, no impacts would occur.

e. Less Than Significant Impact. The proposed project would not encroach upon or convert any active farmland or existing forest land on the project site or in the project vicinity. The proposed project would produce 2.2 quality recycled water. This water would be available for irrigation,

thus, potentially reducing the use of treated potable water and pumped groundwater for irrigation use. Therefore, impacts would be less than significant.

Finding. Based on the impact discussion above, potential impacts to agriculture and forest resources would be less than significant with the implementation of mitigation measure LU-01.

5.4 AIR QUALITY

5.4.1 Background

The project site is within San Luis Obispo County, which is a non-attainment area for the state standards for ozone and suspended particulate matter. The APCD administers a permit system to ensure that stationary sources do not collectively create emissions, which would cause local and state standards to be exceeded (San Luis Obispo County Air Pollution Control District [APCD], 2012). Implementation of the proposed project has the potential to generate emissions during construction of the project (short-term emissions) and during operation of the proposed facilities (long-term emissions).

5.4.2 Regulatory Setting

FEDERAL CLEAN AIR ACT

The Federal CAA establishes the framework for modern air pollution control. The Act, enacted in 1970 and amended in 1990, directs the U.S. EPA to establish national ambient air quality standards (NAAQS) for six pollutants: O₃, CO, Pb, NO₂, particulate matter (PM₁₀, PM_{2.5}) and SO₂. These standards are divided into primary and secondary standards, the former are set to protect human health, and the latter are set to protect environmental values, such as plant and animal life.

STATE AND REGIONAL REGULATORY AGENCIES

Construction projects shall implement emissions control measures in accordance with San Luis Obispo Air Pollution Control District (SLOAPCD) and California Air Resources Board (ARB) regulations.

The project site is located approximately 750 feet from the San Miguel Joint Union schools. Pursuant to the requirements of California Health and Safety Code Section 42301.6 (AB 3205) and Public Resources Code Section 21151.8, subd. (a)(2), any new school or proposed industrial or commercial project site located within 1000 feet of a school must be referred to the SLO County APCD for review.

SHORT-TERM EMISSIONS

Heavy equipment and earth-moving construction activities generate fugitive dust and combustion emissions. These may have substantial temporary impacts on local air quality. Fugitive dust emissions would result from land clearing, demolition, ground excavation, cut and fill activities,

and equipment traffic over temporary roads at the WWTP. Combustion emissions, such as nitrogen oxide (NO_x) and particulate matter less than or equal to 10 micrometers in diameter (PM₁₀), are most significant when using large diesel fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other types of equipment. As discussed previously, construction of the proposed project would include the use of [*backhoes, excavators, a concrete crusher, dump trucks, a bulldozer, a high lift crane, flatbed delivery trucks, asphalt pavers, vibratory compactors, water trucks, concrete trucks, and various passenger vehicles – update after site layout is determined*] which could generate combustion emissions.

Estimated construction air emissions were calculated for the proposed project using the California Emissions Estimator Model (CalEEMod). The results of the CalEEMod are included in [*Appendix – will be included after calculations are finished*]. The results of the unmitigated estimated construction emission calculations for the proposed project are shown in [*Table*] below. It should be noted that the results are based on conservative estimations provided by [*the construction plans*] and by the CalEEMod defaults; therefore, it is possible that actual project construction emissions may vary based on the finalized design and construction plans.

[*CalEEMod table*]

Based on the results shown in [*above table*], air emissions would be [*in/out of compliance*] with the APCD thresholds for all pollutants during construction year [*year*]. Descriptions of the pollutants are provided below.

Combustion Emissions (ROG and NO_x)

Combustion emissions are most significant when using large diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other heavy equipment. Emissions can vary substantially from day to day, depending on the level of activity and the specific type of operation. Reactive organic gases (ROG) and NO_x are the critical pollutants caused by construction work because of the high output of these pollutants by heavy diesel equipment normally used in grading operations. Based on proposed grading estimates, construction emissions would [*not*] result in an exceedance of significance thresholds for ROG or NO_x (refer to [*above table*]). [*All equipment used for the construction of the proposed project would meet the APCD tier 2 standard or better to ensure construction activities would not exceed the APCD threshold for ROG and NOX*].

Diesel Particulate Matter

[*TBD - construction activities would/would not exceed daily thresholds*]

The proposed project would occur in a developed area with an existing residential area located directly to the south and three schools, San Miguel Joint Union School, Almond Acres Charter Academy, and Lillian Larsen Elementary School, located approximately 750 feet to the southwest. The close proximity of residences and schools results in the potential for exposure to humans from diesel particulate matter. Implementation of standard APCD measures would mitigate this impact.

Due to the proximity of the project to the three schools, the project must be submitted to the SLO County APCD for review.

Materials Containing Asbestos

The project [*would/would not*] require the dismantling or removal of any major structures or equipment.

[TBD - amount of material hauled offsite, number of round trips to landfill, possibility of asbestos in demolition, etc]

Demolition and remodeling activities are subject to the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP). These requirements include but are not limited to: 1) notification requirements to the APCD, 2) asbestos survey conducted by a Certified Asbestos Inspector, and, 3) applicable removal and disposal requirements of identified asbestos-containing material (ACM). Implementation of these mitigation measures would ensure that construction activities do not result in significant impacts associated with exposure to asbestos-containing materials.

Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) have been identified as a toxic air contaminant by the California Air Resources Board (CARB). Under the CARB Airborne Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities, a geologic evaluation should be conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the APCD. If NOA is found at the site, the City must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD.

Based on Technical Appendix 4.4 of the APCD's CEQA Handbook, which indicates APCD Naturally Occurring Asbestos Zones within San Luis Obispo County, the PIA is not within a NOA buffer area (APCD, 2017).

Fugitive Dust

Heavy equipment performing construction activities would generate fugitive dust, resulting in substantial temporary impacts. Fugitive dust emissions would result from land clearing; excavation, and equipment traffic over temporary dirt roads. Impacts from fugitive dust emissions would be significant because they could potentially cause a public nuisance or exacerbate the existing PM₁₀ non-attainment status in the northern areas of the county, including the city; therefore, standard dust control mitigation measures are included to ensure that impacts to sensitive receptors are less than significant.

LONG-TERM EMISSIONS

Estimated operational air emissions were calculated for the proposed project using CalEEMod. The results of the CalEEMod are included in [*Appendix – will be included after calculations are finished*]. The results of the unmitigated estimated operational emission calculations for the proposed project are shown in [*Table*] below. It should be noted that the results are based on conservative estimations provided by the District and by the CalEEMod defaults; therefore, it is possible that project operation emissions may vary based on the finalized design and construction plans.

The threshold criteria established by the APCD to determine the significance and appropriate mitigation level for long-term operational emissions (i.e., vehicular and area source emissions) from the project are presented in [*Table below*]. Emissions that equal or exceed the designated threshold levels are considered potentially significant and should be mitigated. As shown in [*Tables, the level of analysis and mitigation recommended follows a tiered approach (will depend on construction plans)*], based on the overall amount of emissions generated by the project. For projects requiring air quality mitigation, the APCD has developed a list of both standard and discretionary mitigation strategies tailored to the type of project being proposed (i.e., residential, commercial, or industrial).

[*CalEEMod table*]

[*This section will be updated depending on construction plans and design specifications*]

5.4.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.4.4 Discussion of Checklist Responses

a. Less Than Significant Impact. The 2001 Clean Air Plan (CAP) includes land use management strategies to guide decision makers on land use approaches that result in improved air quality (APCD 2001). Implementation of the proposed project is not anticipated to conflict with the 2001 CAP because the project is limited to improvement of the existing WWTP to accommodate future wastewater flows, improve effluent quality, and provide an additional source of recycled water for irrigation purposes. Proposed improvements would not increase population predictions estimated in the CAP for the community of San Miguel. Construction of the proposed project would temporarily increase the number of vehicle trips for the 12-month duration of the proposed construction phase. Operation of the proposed project would require approximately one or two additional employees; however, implementation of the project is not expected to create a significant increase in vehicle trips or traffic during plant operations. The project is located within an urban area, and would address existing demands for wastewater treatment. Due to the nature of the project, the proposed land use of the site would not change or require transportation control measures. Therefore, impacts are expected to be less than significant.

b. [Finding].

Based on the results of the CalEEMod, the project [*would/would not*] violate any air quality standard or contribute substantially to an existing or projected air quality violation. [*With the implementation of mitigation measures AQ-1, AQ-2, and AQ-3, emissions would be [further] reduced, as shown in [Table of mitigated emissions]*].

[*CalEEMod mitigated construction emissions table*]

As shown in [*above table*] and in [*table of operational impacts*], with the implement of mitigation, impacts to air quality during construction and operation [*TBD*].

c. [Finding]. [explanation]

[*Cumulatively considerable net increase in ozone or PM₁₀?*]

d. [Finding].

The project site is adjacent to a residential area on the southern side. The site is also located approximately 750 feet from the San Miguel Joint Union schools. Pursuant to the requirements of California Health and Safety Code Section 42301.6 (AB 3205) and Public Resources Code Section 21151.8, subd. (a)(2), any new school or proposed industrial or commercial project site located within 1000 feet of a school must be referred to the SLO County APCD for review.

As discussed above, construction and operation of the project would generate emissions including diesel particulate matter and fugitive dust. These emissions [*would/would not exceed APCD thresholds; (however),*] due to the proximity of sensitive receptors, mitigation would be implemented to reduce the potential for a nuisance, and exposure to diesel particulate matter.

With the implementation of [*mitigation measures*], the estimated emissions associated with construction of the proposed project would be [*further*] reduced below established APCD thresholds and would ensure that potential impacts to sensitive receptors would be less than significant during construction of the proposed project. As shown in [*CalEEMod table*] above, mitigated construction emissions would be [*further*] reduced below the APCD thresholds. With implementation of mitigation measures AQ-1 through AQ-4, potential impacts would be less than significant.

e. Less Than Significant Impact. An odor characteristically has three significance thresholds. The first threshold is the detection threshold, which is the minimum amount of odor-free dilution air needed to prevent an individual from detecting the odor. The detection threshold is the point where an individual detects an odor; this threshold varies for each individual. The second threshold, the recognition threshold, occurs at lower dilutions (higher concentrations). At the recognition threshold, other odor parameters, such as odor character and relative pleasantness, are noticeable. The third threshold is called the annoyance threshold. The annoyance threshold is at or above the recognition threshold. At the annoyance threshold, people complain about an odor; this can even occur when the odor is pleasant. For example, a person passing by an industrial bakery or chocolate factory may experience the odor as pleasant; however, individuals living near these facilities and constantly subjected to the odor may consider it a nuisance. Based on the proposed tertiary level of treatment, implementation of the proposed project could not result in significant odors affecting the surrounding area. Therefore, impacts would be less than significant and no mitigation is required.

Finding. [*finding*]

5.4.5 Mitigation Measures

AQ-1: Prior to issuance of construction permits, the following measures shall be incorporated into the construction phase of the project and shown on all applicable plans. All of the following measures shall be implemented during construction of the proposed project.

Construction Equipment

- a. Maintain all construction equipment in proper tune according to manufacturer's specifications;
- b. Fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, and auxiliary power units with California Air Resources Board-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- c. Maximize, to the extent feasible, the use of diesel construction equipment meeting the California Air Resources Board's Tier 2 certified engines or cleaner off-road, heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- d. Use on-road, heavy-duty trucks that meet the California Air Resources Board's 2007 or cleaner certification standard for on-road, heavy-duty diesel engines, and comply with the State On-Road Regulation;
- e. Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (i.e., captive or nitrogen oxide [NOx]-exempt area fleets) may be eligible by proving alternative compliance;
- f. All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;
- g. Diesel idling within 1,000 feet of sensitive receptors shall be avoided to the maximum extent feasible;
- h. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors to the maximum extent feasible;
- i. Electrify equipment when feasible;
- j. Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- k. Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

Diesel Idling Restrictions for Construction Phases

The following idle-restricting measures shall be required for the construction phase of the proposed project near sensitive receptors for both on- and off-road equipment:

- a. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors, to the maximum extent feasible;
- b. Diesel idling within 1,000 feet of sensitive receptors shall be prohibited to the maximum extent feasible;
- c. Use of alternative fueled equipment is recommended whenever possible; and,
- d. Signs that specify the no idling requirements must be posted and enforced at the construction site.

The following idle-restricting measures shall be required for the construction phase of the proposed project for on-road vehicles.

Section 2485 of Title 13, the California Code of Regulations limits diesel-fueled commercial motor vehicles that operate in the State of California with gross vehicular weight ratings of greater than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:

- a. Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and,
- b. Shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 100 feet of a restricted area, except as noted in Subsection (d) of the regulation; and,
- c. Signs must be posted in the designated queuing areas and job site to remind driver of the 5 minute idling limit.

The following idle restricting measures shall be required for the construction phases of the proposed project for off-road equipment.

- a. Off-road diesel equipment shall comply with the 5-minute idling restriction identified in Section 2449(d)(3) of the California Air Resources Board's In-Use Off-Road Diesel regulation: www.arb.ca.gov/regact/2007/ordiesl07/froal.pdf; and,
- b. Signs shall be posted in the designated queuing areas and job sites to remind off-road equipment operators of the 5-minute idling limit.

Naturally Occurring Asbestos and Asbestos Material in Demolition

- a. Prior to demolition or relocation of existing structures or pipes, the Construction Contractor shall comply with the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M – asbestos NESHAP). These requirements include, but are not limited to:
 1. Written notification, within at least 10 business days of activities commencing, to the APCD;
 2. Asbestos survey conducted by a Certified Asbestos Consultant; and,
 3. Applicable removal and disposal requirements of identified asbestos-containing material (ACM).
- b. Prior to ground disturbance and construction, the Construction Contractor shall ensure a geologic evaluation is conducted to determine if the area disturbed is exempt from the Air Resources Board Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (93105). If the site is not exempt from the ATCM requirements, the Construction Contractor shall

comply with all requirements outlined in the Asbestos ATCM, which may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the San Luis Obispo County Air Pollution Control District.

AQ-2: Prior to ground disturbance, construction plans shall include the following notes, and the contractor shall comply with the following standard mitigation measures for reducing fugitive dust emissions such that they do not exceed the San Luis Obispo County Air Pollution Control District's 20% opacity limit (San Luis Obispo County Air Pollution Control District Rule 401) and do not impact off-site areas prompting nuisance violations (San Luis Obispo County Air Pollution Control District Rule 402) as follows:

- a. Reduce the amount of disturbed area where possible;
- b. Use water trucks, or sprinkler systems, or a San Luis Obispo County Air Pollution Control District-approved dust suppressant in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 miles per hour (mph). Recycled (non-potable) water should be used whenever possible;
- c. All dirt stockpile areas should be sprayed daily as needed;
- d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities;
- e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive, grass seed and watered until vegetation is established;
- f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the San Luis Obispo County Air Pollution Control District;
- g. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- h. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114;
- i. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible; and,
- j. The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20% opacity, and to prevent transport of dust off-site. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of

such persons shall be provided to the San Luis Obispo County Air Pollution Control District Compliance Division prior to the start of any grading, earthwork or demolition.

AQ-3: Prior to ground disturbance and construction, the Construction Contractor shall obtain all required permits for the use of portable equipment, 50 horsepower or greater, from the San Luis Obispo County Air Pollution Control District. Upon application for construction permits, all required PM₁₀ measures shall be shown on all applicable grading or construction plans, and implemented during all applicable grading and construction activities.

AQ-4: Prior to ground disturbance and construction, the District shall submit the project to the SLO County Air Pollution Control District, pursuant to the requirements of California Health and Safety Code Section 42301.6 (AB 3205) and Public Resources Code Section 21151.8, subd. (a)(2). These requirements state that any new school or proposed industrial or commercial project site located within 1000 feet of a school must be referred to the SLO County APCD for review.

5.5 BIOLOGICAL RESOURCES

5.5.1 Background

[TBD]

5.5.2 Methodology

[TBD]

5.5.3 Regulatory Setting

Federal Endangered Species Act (ESA)

The US Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under Section 9 of the ESA. The act protects listed species from harm or take which is broadly defined as "...the action of harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct." For any project involving a federal agency in which a listed species could be affected, the federal agency must consult with the USFWS in accordance with Section 7 of the ESA. The USFWS issues a biological opinion and, if the project does not jeopardize the continued existence of the listed species, issues an incidental-take permit.

Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA, 16 United States Code Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668) protect certain species of birds from direct

take. The MBTA protects migrant bird species from take through setting hunting limits and seasons and protecting occupied nests and eggs. The Bald and Golden Eagle Protection act prohibits the take or commerce of any part of these species. The USFWS administers both Acts and reviews federal agency actions that may affect species protected by the Acts.

California Endangered Species Act

The California Department of Fish and Game (CDFG) has jurisdiction over species listed as threatened or endangered under section 2080 of the California Fish and Game Code. The California Endangered Species Act (CESA) prohibits take of state-listed threatened and endangered species. The state act differs from the federal act in that it does not include habitat destruction in its definition of take. The California Fish and Game Code defines take as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CDFG may authorize take under the CESA through Sections 2081 agreements. If the results of a biological survey indicate that a state-listed species would be affected by the project, the CDFG would issue a permit and if the species is both federally and state-listed then under Section 2081 of the CDFG Code, CDFG would establish a Memorandum of Understanding with the USFWS for the protection of the state-listed species.

California Fish and Game Code – Sections 1601 – 1607

The CDFG regulates the modifications of streams, rivers, and lakes under Sections 1601-1607 of the California Fish and Game Code. Modification includes diverting, obstruction, or changing the natural flow or bed, channel, or bank of a regulated feature. The California Fish and Game Code, Sections 1601 to 1607, require that CDFG be notified of any activity that could affect the bank or bed of any stream that has value to fish and wildlife. In practice, CDFG authority is extended to any stream shown on a United States Geological Survey (USGS) topographic map, as well as unmapped channels with a definable bed and bank. Upon notification, CDFG has the discretion to excite a Streambed Alteration Agreement that stipulates restrictions on project activities and mitigation requirements for project impacts.

Section 3503.5 of the California Fish and Game Code

States that it is “unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

CEQA Guidelines Section 15380

CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example “candidate species” that has not yet been listed by the USFWS or CDFG. CEQA, therefore, enables

an agency to protect a species from significant project impacts until the respective government agencies have an opportunity to list the species as protected, if warranted.

In general, plants appearing on the California Native Plant Society List 1 (plants believed to be extant and rare threatened or endangered plants in California) and List 2 (rare, threatened, or endangered plants in California but more numerous elsewhere) are considered to meet CEQA's Section 15380 criteria. Impacts to these species would therefore be considered "significant" requiring mitigation.

San Miguel Community Plan Natural Resource Policies

The San Miguel Community Plan identifies the following specific policies pertaining to the protection of natural resources (County of San Luis Obispo [SLO County] 2016):

- Policy 4-1: Where possible, leverage environmental mitigation requirements for projects to create economic benefits for the community. Examples include a San Joaquin kit fox education center or a museum on Salinan heritage.
- Policy 4-2: Provide adequate buffers between urban development and the following: sensitive biological habitat, agricultural land, and stream banks.
- Policy 4-3: Maintain the Salinas River in a natural state. Avoid major land alterations within the flood plain, except as needed to accommodate flood control projects, recreational projects, and infrastructure.
- Policy 4-4: Preserve areas within the flood plain of the Salinas River in their natural state as open space, while allowing modifications as needed for flood management. Retain these lands in private ownership with an open space easement or acquire in fee essential properties for addition to the County parks system.
- Policy 4-5: Prevent water pollution, consistent with federal and state water policies and standards, including but not limited to the federal Clean Water Act, Safe Drinking Water Act, and National Pollutant Discharge Elimination System (NPDES). Incorporate Low Impact Development (LID) strategies into the design of new development to the greatest extent practicable.
- Policy 4-6: Address bluff retreat on the east side of the Salinas River when considering new development.
- Policy 4-7: Preserve oak trees and other native or historically significant trees. Design development to incorporate these trees to the maximum extent feasible, giving highest priority to avoiding impacts to the trees. If it is determined that construction may impact trees protected by the County, the applicant shall procure all necessary tree removal permits. Trees protected by the County include any existing trees within urban or village reserve lines with the exception of those stated in Section

22.56.020.A of the Land Use Ordinance. A tree protection plan shall be developed by a certified arborist as appropriate and in conformance with County standards regarding oak protection. The plan shall include, but would not be limited to, an inventory of trees within the construction site, setbacks from trees and protective fencing, restrictions regarding grading and paving near trees, direction regarding pruning and digging within root zone of trees, and requirements for replacement and maintenance of trees. If protected trees will be removed, replacement tree plantings of like species in accordance with County standards. If a protected tree shall be encroached upon but not removed, a certified arborist shall be present to oversee all trimming of roots and branches.

Policy 4-8: Consistent with state water efficiency standards, require the use of native, drought tolerant plants in landscaping for new development, including private and public projects.

Policy 4-9: Maintain a sustainable water supply by:

- a) Encouraging water conservation programs;
- b) Maximizing groundwater replenishment by increasing the infiltration of runoff in public and private spaces;
- c) Considering the use of recycled water for landscaping of parks, streetscapes, and open space areas in new developments;
- d) Seeking supplemental water;
- e) Obtaining necessary permits to allow extraction of Salinas River underflow as a source for the municipal water system.

Policy 4-10: ***Special Status Species Habitat Loss Minimization***. The County encourages preservation or enhancement of upland habitat for wildlife species to the maximum extent feasible on parcels containing suitable habitat (e.g. areas used for foraging, breeding, dispersal, etc.). To the extent feasible, habitat preservation and enhancement should promote regional connectivity and discourage isolated habitat.

Policy 4-11: In order to mitigate for the loss of San Joaquin kit fox (SJKF) habitat by applying compensatory impact, the following mitigation ratios shall apply, based on the location of development (Figure 7):

- a) Low quality SJKF habitat value of within Developed-Urban areas: No ratio
- b) Developed-Rural areas: 1:1
- c) Agricultural areas currently in vineyard production: 1:1
- d) Agricultural forage production areas: 2:1
- e) All other areas consisting of medium quality habitat associated with the property. Salinas River: 2:1
- f) High quality habitat: 4:1

Policy 4-12: **Trail Development - Sensitive Communities Minimization.** To the maximum extent feasible, trail development should be designed to avoid impacts to willow-cottonwood riparian forest.

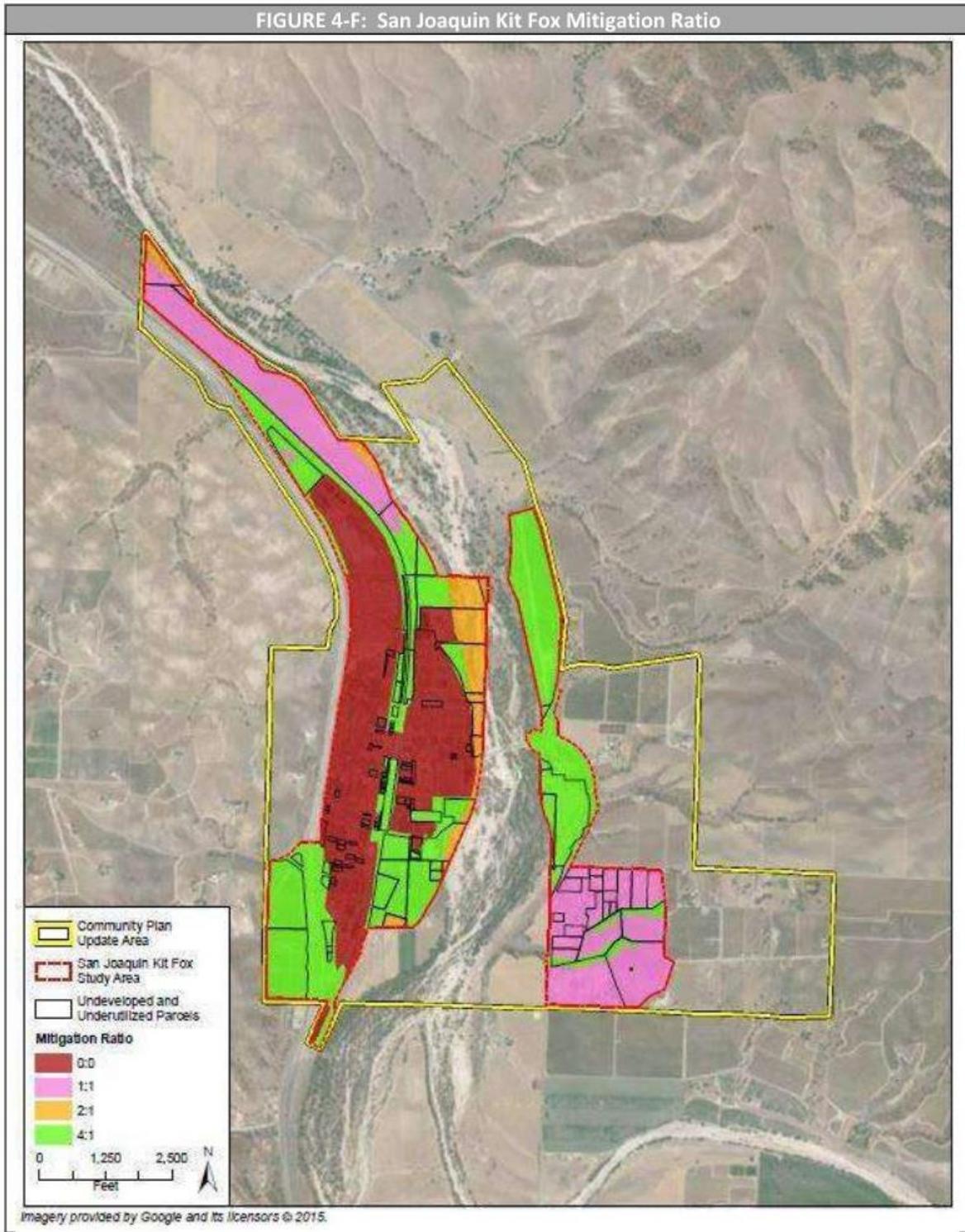


Figure 7. San Joaquin kit fox mitigation ratio map (SLO County 2016).

5.5.4 Regional Setting

HABITAT TYPES

The community of San Miguel is characterized by two primary plant communities and wildlife habitats: willow-cottonwood riparian forest and non-native grasslands.

Willow-Cottonwood Riparian Forest

These communities feature tall, open, broad-leaved, winter-deciduous riparian forests dominated by Fremont cottonwood and arroyo willow. These areas support cover for wildlife and good foraging habitat. Riparian zones help provide corridors for migratory birds and mammals. Their habitat value increases when water is present. Overgrown, non-native invasive species (e.g. arundo, tamarisk, etc.) can degrade this community.

Non-Native Annual Grassland

Non-native annual grassland is found throughout California, primarily below 3,000 feet elevation on fine-textured, usually clay soils. This vegetation type is dominated by introduced annual grasses in association with many species of showy native forbs, especially in years of abundant rainfall. These grasses and flowers germinate with the onset of late fall and winter rains. Growth, flowering, and seed-set take place from winter through spring. Most annuals in this community die by summer and persist as seeds until the return of winter rains.

SENSITIVE HABITATS

The area within the community of San Miguel is within the range of the San Joaquin kit fox in northern San Luis Obispo County. However, no occurrences have been documented by the California Natural Diversity Database CNDDDB within the boundaries of the Community Plan area or the proposed Urban Reserve Line, though several occurrences have been reported within ten miles of the area. A map of kit fox mitigation ratios specific to the community of San Miguel (Figure 7) has been included in this chapter and in the San Miguel Community Planning Area Standards.

SENSITIVE RESOURCE AREAS

The Salinas River corridor is designated as a Sensitive Resource Area (SRA) Combining Designation, in addition to being within the Flood Hazard (FH) Combining Designation. Sensitive Resource Area designations are applied to areas having high environmental quality and special ecological or educational significance. This designation is intended to protect the following resources from degradation:

- 1) Sensitive riparian habitat;

- 2) Important wildlife migration corridors; and
- 3) Hydrological function – particularly as it relates to flood control and management of water resources.

5.5.5 Special Status Species

SPECIAL STATUS PLANT COMMUNITIES

The California Natural Diversity Database (CNDDDB) (2012) has occurrence records for several special-status plant and wildlife species within the community. The following list contains the names of all special-status plant species known to occur within the San Miguel area.

Table 2. Special Status Plant Species

Table 4-A: Special Status Plant Species		
Common Name	Latin Name	Status
dwarf calycadenia	<i>Calycadenia villosa</i>	1B.1
Kellogg’s horkelia	<i>Horkelia cuneata var. sericea</i>	1B.1
pale-yellow layia	<i>Layia heterotricha</i>	1B.1
round-leaved filaree	<i>California macrophylla</i>	1B.1
Santa Cruz Mountains pussypaws	<i>Calyptridium parryi var. hesseae</i>	1B.1
Santa Lucia purple amole	<i>Chlorogalum purpureum var. purpureum</i>	FT, 1B.1
<u>Status codes</u> 1B.1 – California Native Plant Society List 1B.1 – Endemic FE – Federally Endangered FT – Federally Threatened SE – State Endangered		

SPECIAL STATUS ANIMAL SPECIES

The following list contains the names of all special-status animal species known or with the potential to occur within the San Miguel area.

Table 3. Special Status Animal Species

Table 4-B: Special Status Animal Species		
Common Name	Latin Name	Status
American badger	<i>Taxidea taxus</i>	SSC
bald eagle	<i>Haliaeetus leucocephalus</i>	SE
burrowing owl	<i>Athene cunicularia</i>	SSC
California horned lark	<i>Eremophila alpestris actia</i>	WL
coast horned lizard	<i>Phrynosoma blainvillii</i>	SSC
ferruginous hawk	<i>Buteo regalis</i>	WL
golden eagle	<i>Aquila chrysaetos</i>	WL
least Bell's vireo	<i>Vireo belli pusillus</i>	FE, SE
Monterey dusky-footed woodrat	<i>Neotoma macrotis luciana</i>	SSC
pallid bat	<i>Antrozous pallidus</i>	SSC
prairie falcon	<i>Falco Mexicanus</i>	WL
Salinas pocketmouse	<i>Perognathus inornatus psammophilus</i>	SSC
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE, ST
silvery legless lizard	<i>Anniella pulchra pulchra</i>	SSC
tricolored blackbird	<i>Agelaius tricolor</i>	SSC
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT
western pond turtle	<i>Emys marmorata</i>	SSC
western spadefoot toad	<i>Spea hammondi</i>	SSC
yellow warbler	<i>Dendronica petechial brewsteri</i>	SSC
<u>Status codes:</u> FE – Federally Endangered FT – Federally Threatened SE – State Endangered SSC – Species of Special Concern (California Department of Fish and Wildlife) ST – State Threatened WL – Watch List (California Department of Fish and Wildlife)		

5.5.6 Project-Specific Biological Communities (Vegetative Communities and Wildlife Habitats)

[TBD]

5.5.7 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.5.8 Discussion of Checklist Responses

a. [Finding]. [explanation]

b. [Finding]. [explanation]

c. **[Finding]**. [explanation]

d. **[Finding]**. [explanation]

e. **[Finding]**. [explanation]

f. **[Finding]**. [explanation]

Finding. [*finding*]

5.5.9 Mitigation Measures

[This section will likely be updated after the site is assessed]

All mitigation measures described in the San Miguel Community Plan, Appendix J, are included, with the exception of mitigation measures that are irrelevant to the scope of the project.

BIO-1(a): ***Special Status Species Habitat Loss Minimization.*** The County encourages preservation or enhancement of upland habitat for wildlife species to the maximum extent feasible on parcels containing suitable habitat (e.g. areas used for foraging, breeding, dispersal, etc.). To the extent feasible, habitat preservation and enhancement should promote regional connectivity and discourage isolated habitat.

BIO-1(b): ***Biological Resources Assessments, Discretionary Projects.*** Discretionary land use permits and land division applications shall include a biological resources assessment (BRA) to document the existing biological resources within the project footprint plus any necessary buffer to determine the potential impacts to those resources. The BRA shall be conducted by a County-approved biologist and conform to the requirements set forth in the County guidance document, *Guidelines for Biological Resources Assessments – Guidelines for Biological Consultants.*

BIO-1(c): ***Special Status Plant Species Surveys.*** If the BRA determines that special status plant species may occur on-site, surveys for special status plants shall be completed. The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the BRA. All plant surveys shall be conducted by a County-approved biologist no more than two years before initial ground disturbance. All special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and topographic map. Surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the County if said protocols exist. A report of the survey results shall be submitted to the Department of Planning and Building, and the CDFW and/or USFWS, as appropriate, for review and approval.

BIO-1(d) and (e): ***Special Status Plant Species Avoidance, Minimization, and Mitigation.*** If Federal listed, State listed or California Rare Plant List 1B species are found during

special status plant surveys, then the project shall be re-designed to avoid impacting these plant species, if feasible. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits of construction shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a County-approved biologist, to protect them from direct and indirect impacts.

Restoration and Monitoring. If special status plant species cannot be avoided, all impacts shall be mitigated at a minimum ratio of 2:1 (number of acres/individuals restored to number of acres/individuals impacted) for each species. A restoration plan shall be prepared and submitted to the County as well as other State or Federal agencies as appropriate. The restoration plan shall include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);
- Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved];
- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values);
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan);
- Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule);
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports);
- Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type;
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria;
- Notification of completion of compensatory mitigation and agency confirmation; and
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

BIO-1(f): ***Special Status Species Habitat Assessment and Protocol Surveys.*** If the results of the BRA determine that suitable habitat may be present for special status species, prior to issuance of construction permits, protocol habitat assessments/surveys shall be

completed in accordance with California Department of Fish and Wildlife (CDFW), United States Fish and Wildlife Service (USFWS), and County protocols, as applicable. If through consultation with the CDFW and/or USFWS it is determined that protocol habitat assessments/surveys are not required, said consultation shall be documented prior to issuance of any construction permits. Each protocol has different survey and timing requirements. Applicants for each project shall be responsible for ensuring that the protocol requirements are followed.

BIO-1(g): ***Special Status Species Avoidance and Minimization.*** Based on the results of the Special Status Species Habitat Assessment and Protocol Surveys required by BIO-1(f), the following measures may be applied to aquatic and/or terrestrial species and should be applied to each project, as applicable. It should be noted that if an Endangered or Threatened species may be impacted by a given project, the CDFW and/or USFWS would likely require additional permits to authorize take under the Federal Endangered Species Act and California Endangered Species Act. These permits could also include additional measures and requirements in which project applicants will need to comply with:

- Ground disturbance shall be limited to the minimum necessary to complete the project. The project limits of disturbance shall be flagged. Areas of special biological concern within or adjacent to the limits of disturbance shall have highly visible orange construction fencing installed between said area and the limits of disturbance.
- All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, if feasible, to avoid impacts to sensitive aquatic species.
- Pre-construction clearance surveys shall be conducted within 14 days of the start of construction (including staging and mobilization) by a County-approved biologist. The surveys shall cover the entire disturbance footprint plus a minimum 200 foot buffer, if feasible, and shall identify all special status animal species that may occur on-site. All non-listed special status species shall be relocated from the site either through direct capture or through passive exclusion (e.g., American badger). The results of the pre-construction survey shall be submitted to the County and construction shall not commence without authorization from the County.
- All projects occurring within or adjacent to sensitive habitats that may support special status species shall have a County-approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for Endangered/Threatened species, as appropriate. Alternatively, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are begin fully implemented.

- No Endangered/Threatened species shall be captured and relocated without expressed permission from the CDFW and/or USFWS.
- If at any time during construction of the project an Endangered/Threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. A CDFW/USFWS-approved biologist shall document the occurrence and consult with the CDFW and/or USFWS as appropriate.
- All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.
- At the end of each work day, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment.
- All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.
- Upon completion of the project, a qualified biologist shall prepare a Final Compliance report documenting all compliance activities implemented for the project, including the pre-construction survey results. The report shall be submitted to the County within 30 days of completion of the project.
- If special status bat species may be present and impacted by the project, a qualified biologist shall conduct within 30 days of the start of construction presence/absence surveys for special status bats in consultation with the CDFW where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, structures and other areas where bats may roost. If active roosts are located, exclusion devices such as netting shall be installed to discourage bats from occupying the site. If a roost is determined by a qualified biologist to be used by a large number of bats (large hibernaculum), bat boxes shall be installed near the project site. The number of bat boxes installed will depend on the size of the hibernaculum and shall be determined through consultations with the CDFW. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed. If the maternity colony cannot be avoided, projects shall be redesigned to avoid the colony. If redesign is not feasible the maternity colony can only be removed in consultation with and authorization from the County and CDFW. For State listed bat species in addition, a maternity colony can only be removed if authorized by the CDFW and covered under an incidental take permit.

BIO-1(h): ***Preconstruction Surveys for Nesting Birds.*** For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the California Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a County-approved biologist no more than 14 days prior to vegetation removal. The surveys shall include the entire segment disturbance area plus a 500 foot buffer around the site. If active nests are located, all construction work shall

be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A County-approved biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. The results of the pre-construction survey shall be submitted to the County and construction shall not commence without authorization from the County.

BIO-1(i): ***Worker Environmental Awareness Program (WEAP)***. Prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend WEAP training, conducted by a County-approved biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form shall be submitted to the County to document compliance.

BIO-2: ***San Joaquin Kit Fox (SJKF) Habitat Mitigation***. Prior to issuance of construction permits, the applicant shall mitigate for the loss of SJKF habitat based on the following ratios for the areas shown in Figure 7.

- Low-quality SJKF habitat within Developed-Urban areas: No ratio
- Developed-Rural areas: 1:1
- Agricultural areas currently in vineyard production: 1:1
- Agricultural forage production areas: 2:1
- All other areas consisting of medium-quality habitat associated with the Salinas River: 2:1
- High-quality habitat: 4:1

BIO-3(a): ***Riparian Setbacks***. New development shall be setback a minimum of 25 feet from the upland extent of the willow-cottonwood riparian forest associated with the Salinas River and its tributaries within the Plan area, unless a smaller setbacks is approved by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS). For discretionary land use permits or land division application, larger setbacks could be determined by the County on a project-by-project

basis, such as for occupied buildings, if deemed appropriate. The riparian setbacks do not apply to low impact (non-structural) features such as trails.

The upland extent of the riparian vegetation shall be included on site plans, and be determined by a qualified biologist, if necessary.

BIO-4(b): ***Jurisdictional Water and Wetlands Restored.*** Impacts to jurisdictional waters and wetlands shall be mitigated at a minimum ratio of 2:1 (area restored/created/enhanced: area lost), which is typically the standard for the USACE and RWQCB; but it should be noted that these agencies could request more mitigation during the permitting process. Furthermore, the CDFW mitigation ratios typically range between 3:1 and 5:1 for temporary and permanent impacts, respectively. Mitigation shall occur on-site or as close to the impacted habitat as possible. A mitigation and monitoring plan shall be developed by a County-approved biologist in accordance with the requirements described in BIO-1(e) of the CPU EIR.

BIO-4(c): ***Best Management Practices (BMPs) During Construction.*** The following best management practices shall be required for development within or adjacent to jurisdictional areas.

- Access routes, staging, and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other waters including locating access routes and construction areas outside of jurisdictional areas to the maximum extent feasible.
- To control sedimentation during and after project implementation, appropriate erosion control materials shall be deployed to minimize adverse effects on jurisdictional areas in the vicinity of the project.
- Project activities within the jurisdictional areas should occur during the dry season (typically between June 1 and November 1) in any given year to the extent practicable, or as otherwise directed by the regulatory agencies.
- During construction, no litter or construction debris shall be placed within jurisdictional areas. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- All project-generated debris, building materials, and rubbish shall be removed from jurisdictional areas and from areas where such materials could be washed into them.
- Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project-related activities, shall be prevented from contaminating the soil and/or entering jurisdictional areas.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 60 feet from bodies of water where possible, and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Reduced distances shall be approved by the County.

Prior to the onset of work activities, a plan must be in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should an accidental spill occur.

BIO-5: ***Outdoor Lighting Design.*** Outdoor lighting shall be designed to be minimally disruptive to wildlife. This may be accomplished through the use of hoods to direct light away from natural habitat, using low intensity lighting, and using a few lights as necessary to achieve the goals of the project.

BIO-6: ***Tree Protection.*** If it is determined that construction may impact trees protected by the County, the applicant shall procure all necessary tree removal permits. Trees protected by the County include any existing trees within urban or village reserve lines with the exception of those stated in Section 22.56.020.A of the Land Use Ordinance. A tree protection plan shall be developed by a certified arborist as appropriate and in conformance with County standards regarding oak protection. The plan shall include, but would not be limited to, an inventory of trees within the construction site, setbacks from trees and protective fencing, restrictions regarding grading and paving near trees, direction regarding pruning and digging within root zone of trees, and requirements for replacement and maintenance of trees. If protected trees will be removed, replacement tree plantings of like species in accordance with County standards. If a protected tree shall be encroached upon but not removed, a certified arborist shall be present to oversee all trimming of roots and branches.

5.6 CULTURAL RESOURCES

5.6.1 Methodology

[TBD]

5.6.2 Setting

[TBD]

5.6.3 Regulatory Setting

LAND USE ORDINANCE

The following cultural resource standards shall apply to the site (County of San Luis Obispo, 2019).

- (1) Known archaeological sites shall be designated as unbuildable areas. The areas shall not be identified as archaeological sites on any plans, maps or recorded documents. A buffer of 150 feet from the sites identified as cultural resources sites shall be established.

- (2) In the event any grading is proposed within the buffer, archaeological monitoring shall accompany the grading. Such grading will be preceded by a pre-construction workshop for contractors concerning the nature of cultural resources, protection of such resources under CEQA, procedures for accidental discovery and scheduling for monitoring during such grading.
- (3) Any trails developed in connection with a project or land division, they shall be designed and constructed in a manner and location such that they do not come within the buffer zones wherever possible. In the event any trail or construction of trails is proposed within the buffer, the applicant shall employ a qualified archaeologist to either monitor the application of a fill soil cap to protect the archaeological site areas, or conduct additional field work to identify, catalogue and store any resources which may be found.
- (4) In the event archaeological remains are encountered during grading, work shall be stopped immediately or redirected until a qualified archaeologist and Native American representative, approved in advance by the Department, are retained by the applicant to evaluate the significance of the find. If remains are found to be significant, they shall be subject to a Phase 3 mitigation program funded by the applicant. This condition shall be printed on all building and grading plans.

SAN MIGUEL COMMUNITY PLAN CULTURAL RESOURCE POLICIES

The San Miguel Community Plan identifies the following specific policies pertaining to the protection of cultural resources (County of San Luis Obispo, 2016):

Policy 4-13: Rather than mitigating for disturbed or destroyed cultural resources, give priority to development projects that avoid impacts and protect and preserve archaeological resources and significant historic resources to the maximum extent feasible.

- a) **Disturbance of Historical Resources.** Where preservation is not feasible, the significance of each resource shall be evaluated according to current professional standards and appropriate mitigation measures shall be implemented prior to County approval of any development. Mitigation may include, but not be limited to, data recovery and graphic documentation (photographs, drawings, etc.).
- b) Alterations and/or the adaptive reuse of historical resources shall conform to the Secretary of the Interior's Standards. Prior to a project's approval, the County should confirm that a proposed project that contains a historical resource will conform to the Secretary of the Interior's Standards, or implement other feasible mitigation measures such that significant adverse impacts on historic resources will be reduced or avoided.

Policy 4-14: Protect and preserve significant landscape features, including native trees, riparian vegetation, and trees with significant aesthetic or historic significance related to the community's cultural heritage.

5.6.4 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.6.5 Discussion of Checklist Responses

a. **[Finding].** [explanation]

b. **[Finding].** [explanation]

c. **[Finding].** [explanation]

d. **[Finding].** [explanation]

Finding. [*finding*]

5.6.6 Mitigation Measures

[This section may be updated after the site is assessed]

All mitigation measures described in the San Miguel Community Plan, Appendix J, are included.

CR-1(a): **Cultural Resource Protection.** Where cultural resources have been identified and preservation is not feasible, the significance of each resource shall be evaluated according to current professional standards and appropriate mitigation measures shall be implemented prior to County approval of any development. Mitigation may include, but not be limited to, data recovery and graphic documentation (photographs, drawings, etc.).

- CR-1(b): ***Historical Resource Protection, Discretionary Projects.*** For discretionary land use permits and land division applications involving historical resources, alterations and/or the adaptive reuse of historical resources shall conform to the Secretary of the Interior's Standards, or implement other feasible mitigation measures such that significant adverse impacts on historic resources will be reduced or avoided.
- CR-1(c): ***Historical Resource Protection.*** At the time of application for discretionary land use permits, subdivisions, or construction or demolition permits that involve the demolition, substantial alteration, or relocation of buildings or structures that were identified in the Historic Resources Inventory prepared by San Buenaventura Research Associates (2015), the applicant shall retain a historian or architectural historian who meets the Secretary of Interior's Professional Qualifications Standards to document and evaluate the historical significance of the affected buildings or structures. If such documentation and evaluation indicates that the building or structure qualifies as a significant historical resource, further documentation to reduce impacts to the historical resource shall be provided, including but not limited to archival quality photographs, measured drawings, oral histories, interpretive signage, and/or other measures.
- CR-2: ***Archeological Resource Protection, Discretionary Projects.*** At the time of application for discretionary land use permits or land division applications that will involve any grading, trenching, or other ground disturbance, the applicant shall retain a County qualified Registered Professional Archaeologist to complete a Phase 1 archaeological inventory of the project site. In addition to the surface survey, the inventory shall include sufficient background archival research and field sampling to determine whether subsurface prehistoric or historic remains may be present.

Any prehistoric or historic archaeological remains so identified shall be evaluated for significance and eligibility to the California Register of Historic Resources (CRHR). Phase 2 evaluation shall include any necessary archival research to identify significant historical associations as well as mapping of surface artifacts, collection of functionally or temporally diagnostic tools and debris, and excavation of a sample of the cultural deposit to characterize the nature of the sites, define the artifact and feature contents, determine horizontal boundaries and depth below surface, and retrieve representative samples of artifacts and other remains. Any excavation at Native American sites shall be monitored by a tribal representative. Cultural materials collected from the sites shall be processed and analyzed in the laboratory according to standard archaeological procedures. The results of the investigations shall be presented in a technical report following the standards of the California Office of Historic Preservation publication "Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)". Upon completion of the work, all artifacts, other cultural remains, records, photographs, and other documentation shall be curated at the Repository for Archaeological and Ethnographic Collections of the University of California, Santa Barbara, or another facility approved by the Environmental Coordinator.

If any of the resources meet CRHR significance standards, then all feasible recommendations for mitigation of archaeological impacts shall be incorporated into the final design and any permits issued for development. Any necessary data recovery excavation shall be carried out by a County qualified Registered Professional Archaeologist according to a research design reviewed and approved by the County Environmental Coordinator prepared in advance of fieldwork and using appropriate archaeological field and laboratory methods consistent with the California Office of Historic Preservation Planning Bulletin 5 (1991), Guidelines for Archaeological Research Design, or the latest edition thereof.

CR-3: ***Paleontological Resource Construction Monitoring.*** Excavations that will exceed five feet in depth in areas shown in Figure 8 shall be monitored by a qualified paleontological monitor. The frequency of monitoring shall be determined by the paleontologist. If no fossils are observed during the first 50 percent of excavations that exceed three feet in depth, or if the paleontologists can determine that excavations are not disturbing Pleistocene or Pliocene aged sediments, then the frequency of monitoring may be at the discretion of the paleontologist.

Fossil Salvage. If fossils are discovered, then work shall be stopped to allow a qualified paleontologist to recover the fossils. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection, along with all pertinent field notes, photos, data, and maps.

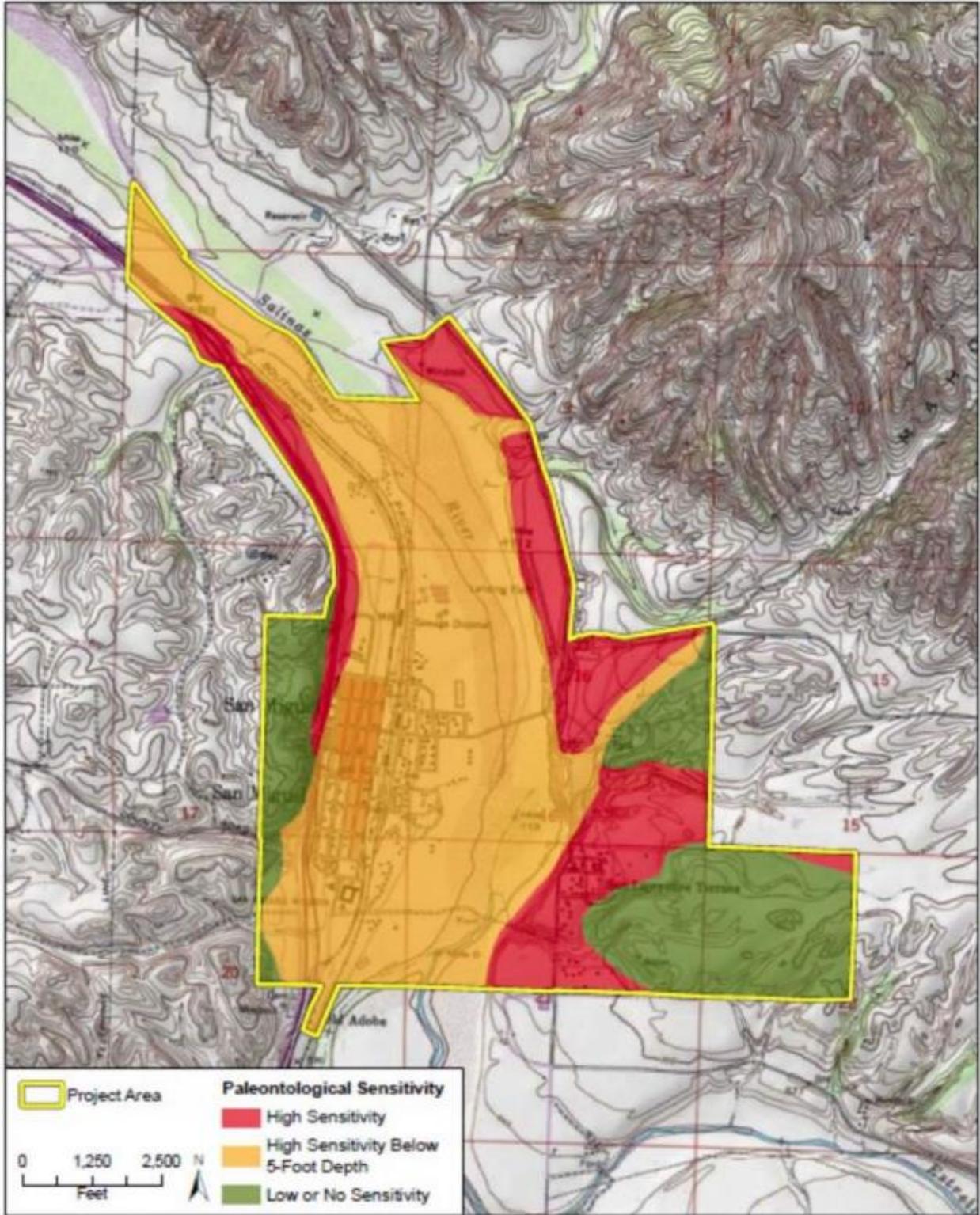


Figure 8. Paleontological sensitivity (County of San Luis Obispo, 2016).

5.7 GEOLOGY AND SOILS

5.7.1 Background

GEOLOGY

The project area is within the Paso Robles Formation and consists of quaternary and tertiary surficial sediments. The PIA predominantly consists of alluvial clay and sand, and the adjacent Salinas River area consists of alluvial gravel and sand (Dibblee & Minch, 2006). Alluvial deposits occur beneath the flood plains of the rivers and streams within the Subbasin. These deposits are typically no more than 100 feet thick and comprise coarse sand and gravel. The alluvium is generally coarser than the Paso Robles Formation, with higher permeability that results in well production capability that often exceeds 1,000 GPM.

Underlying the alluvium is the Paso Robles Formation, with sedimentary layers of approximately 700 feet thick in the project area. The Paso Robles Formation is derived from erosion of nearby mountain ranges. Sediment size decreases from the east and the west, becoming finer towards the center of the Paso Robles Subbasin, indicating sediment source areas are both to the east and west. The Paso Robles Formation is a Plio-Pleistocene, predominantly non-marine geologic unit comprising relatively thin, often discontinuous sand and gravel layers interbedded with thicker layers of silt and clay. The formation was deposited in alluvial fan, flood plain, and lake depositional environments. The formation is typically unconsolidated and generally poorly sorted. The sand and gravel beds in the Paso Robles Formation have a high percentage of Monterey shale gravel and have lower permeability compared to the overlying alluvial unit. The formation also contains minor amounts of gypsum and woody coal (Paso Robles Subbasin Groundwater Sustainability Plan, 2018).

There are three known active faults in proximity to the WWTP site. The Rinconada Fault is situated approximately five miles southwest of San Miguel and is classified as Quaternary (age undifferentiated). The San Andreas Fault is approximately 25 miles east of the District and is classified as Historic (displacement has occurred in the last 200 years). The Hosgri-San Simeon Fault is approximately 25 miles west of the District and is classified as Holocene (displacement during past 11,700 years) (California Department of Conservation, 2010).

SOILS

Soil types within the PIA include Hanford and Greenfield soils, 0 to 2 percent slopes; Hanford and Greenfield soils, 2 to 9 percent slopes; and Metz loamy sand, 0 to 5 percent slopes. The primary soil type within the Salinas River area is Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14. The entire site has soils within Hydrologic Soil Group A (NRCS, 2019). The complete soils report is included as *[Attachment A]* to this report.

5.7.2 Regulatory Setting

STATE WATER RESOURCES CONTROL BOARD (SWRCB) – STORMWATER QUALITY AND EROSION CONTROL REGULATIONS

Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer (QSD).

COUNTY LAND USE ORDINANCE – STORMWATER MANAGEMENT

Section 22.10.155 of the Land Use Ordinance describes the stormwater management requirements for projects within SWRCB designated traditional or non-traditional Municipal Separate Storm Sewer Systems (MS4s), shown in Figure 9. Prior to acceptance of an application for a construction permit, grading permit, land use permit or subdivision application associated with a Regulated Project, as defined in Subsection A.3, the applicant shall submit a Stormwater Control Plan that demonstrates compliance with the Post Construction Requirements for the Central Coast Region, adopted by the Central Coast Regional Water Quality Control Board under Order R3-2013-0032 (County of SLO, 2019).

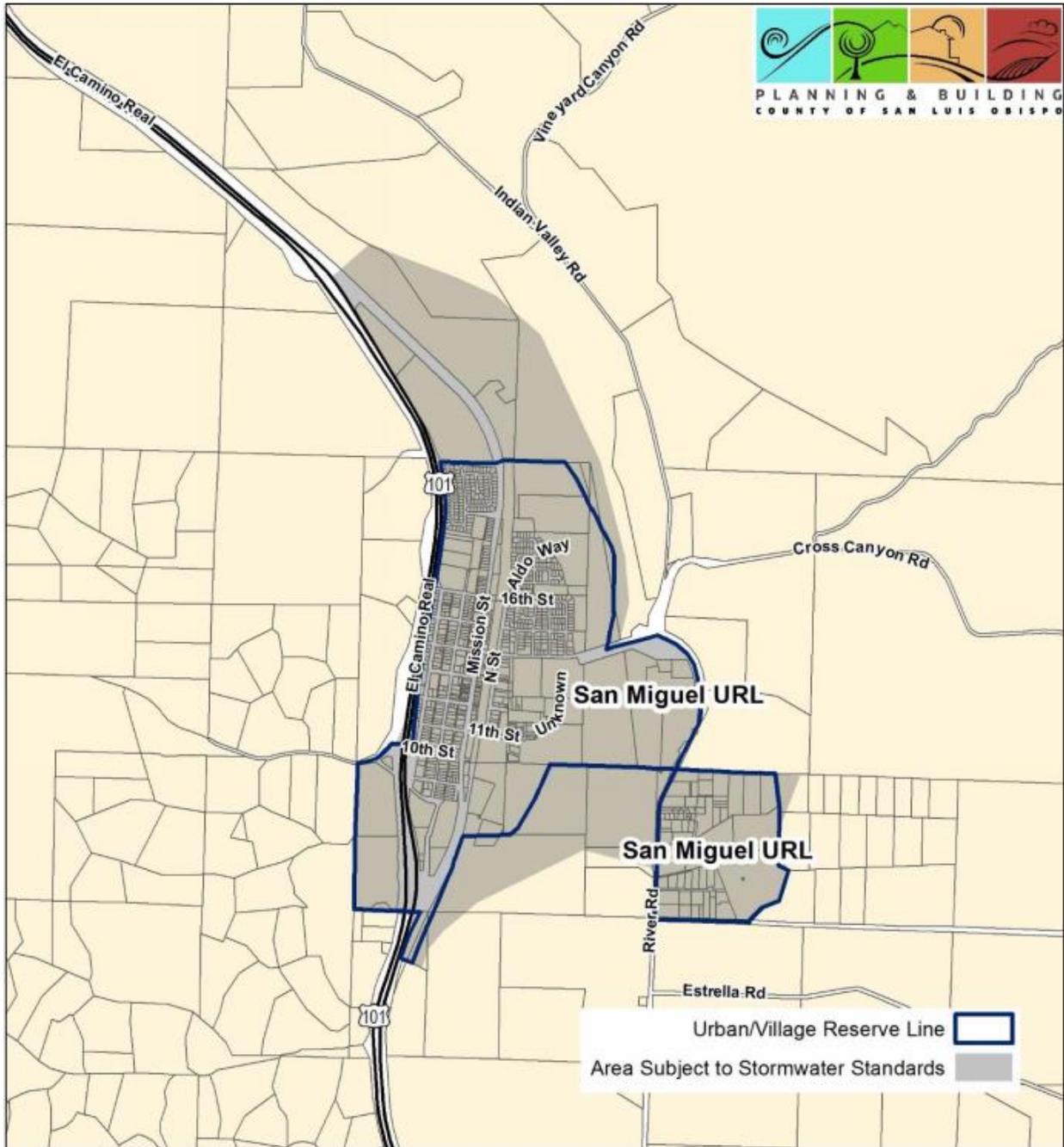


Figure 9. San Miguel stormwater management area. (County of San Luis Obispo, 2019)

SEISMIC RELATED REGULATIONS

The Alquist-Priolo Zoning Act requires the mapping of zones around active faults in California, in an effort to prohibit the construction of structures for human occupancy on active faults and minimize damage due to rupture of a fault. The Seismic Hazard Mapping Act is intended to

delineate zones where earthquakes could cause hazardous ground shaking and ground failure. Both of these acts require local cities and counties to regulate activities within these zones. Additionally, Title 24 of the California Code of Regulations, the California Standard Building Code, contains specific requirements for construction with respect to earthquakes intended to be protective of public health.

5.7.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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5.7.4 Discussion of Checklist Responses

a.i. Less Than Significant Impact. Soils and geotechnical reports and structural engineering in accordance with local seismic influences would be applied in conjunction with the proposed project. There are no Alquist-Priolo Earthquake Fault Zones within the District limits; therefore, impacts are considered less than significant.

a.ii. Less Than Significant Impact. The proposed project would be constructed in compliance with current California Building Codes. Impacts resulting from ground shaking in the area will be less than significant with the incorporation of mitigation measures including adequate structural design and prohibiting construction over active or potentially active faults. These mitigation measures shall be incorporated into the project design. Therefore, impacts would be less than significant.

a.iii. Less Than Significant Impact. Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking. Soils transform from a solid to a liquid state as a result of rapid loss of sheer strength and increased pore water pressure induced by earthquake vibrations.

Based on a review of the existing geotechnical data, the project site is underlain by alluvial clay, sand, and gravel over the Paso Robles Formation. The project site is located within in area of moderate to high liquefaction potential (County of San Luis Obispo, 2019(c)).

The proposed structure would be constructed to current CBC codes. Impacts resulting from ground shaking and liquefaction hazards would be mitigated to less than significant through compliance with existing codes, including engineered site preparation, and adequate structural design. Any proposed construction would require the adoption of appropriate engineering design in conformance with geotechnical standards for construction. Therefore, impacts are expected to be less than significant.

a.iv. Less Than Significant Impact. Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Areas that are generally prone to landslide hazards include: previous landslide locations, the bases of steep slopes, the bases of drainage channels, and developed hillsides where leach-field septic systems are used. The project site is located within an area of low landslide hazard potential (County of San Luis Obispo, 2019(d)). Therefore, impacts are considered less than significant.

b. Less Than Significant With Mitigation. Onsite soils are considered to be moderately erodible (NRCS 2019). Due to the gentle slope of the topography, significant erosion is not expected;

however, due to the presence of the Salinas River immediately to the east, construction best management practices (BMPs) would be implemented to avoid and minimize soil loss and erosion with a construction Stormwater Pollution Prevention Plan (SWPPP) in conjunction with project's final design and grading plan. Implementation of mitigation measures BIO-4(c) and [*GEO-1*] would be sufficient to mitigate this potential impact. Therefore, impacts are expected to be less than significant with mitigation.

c. Less Than Significant Impact. Refer to impact discussion VI(a), above. Potential impacts are considered less than significant.

d. Less Than Significant Impact. Refer to impact discussion VI(a), above. Potential impacts are considered less than significant.

e. No Impact. No new septic tanks or alternative wastewater disposal systems are proposed as part of the project. Therefore, no impact would occur.

Finding. Based on the impact discussion above, potential impacts to geology and soil resources would be less than significant; therefore, no mitigation is required.

5.7.5 Mitigation Measures

GEO-1: (May need to be moved to BIO mitigation measures)

Prior to construction, the District shall prepare and submit to the Regional Water Quality Control Board or State Water Resources Control Board a Notice of Intent (NOI) and prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the requirements of the State General Order related to construction projects. The SWPPP shall identify the selected stormwater management procedures, pollution control technologies; spill response procedures, and other means that will be used to minimize erosion and sediment production and the release of pollutants to surface water during construction. The District shall ensure that sedimentation and erosion control measures are installed prior to any ground disturbing activities.

5.8 GREENHOUSE GAS EMISSIONS

5.8.1 Background

Greenhouse gases (GHGs) are any gases that absorb infrared radiation in the atmosphere, and are different from the criteria pollutants discussed in Section III, Air Quality, above. The primary GHGs that are emitted into the atmosphere as a result of human activities are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. These are most commonly emitted through the burning of fossil fuels (oil, natural gas, and coal), agricultural practices, decay of organic waste in landfills, and a variety of other chemical reactions and industrial processes (i.e., the manufacturing of cement).

CO₂ is the most abundant GHG and is estimated to represent approximately 80–90% of the principal GHGs that are currently affecting the earth’s climate. According to the CARB, transportation (vehicle exhaust) and electricity generation are the main sources of GHG in the state.

5.8.2 Regulatory Setting

Assembly Bill 32

The passage of Assembly Bill 32 (AB 32), the California Global Warming Solutions Act (2006), recognized the need to reduce GHG emissions and set the GHG emissions reduction goal for the State of California into law. The law required that by 2020, State emissions must be reduced to 1990 levels. This is to be accomplished by reducing GHG emissions from significant sources via regulation, market mechanisms, and other actions. Subsequent legislation (i.e., Senate Bill 97 [SB 97], Greenhouse Gas Emissions bill) directed the CARB to develop statewide thresholds.

San Luis Obispo County Air Pollution Control District (APCD)

In March 2012, the APCD approved thresholds for GHG emission impacts, and these thresholds have been incorporated into the APCD’s CEQA Air Quality Handbook (APCD 2012). The APCD determined that a tiered process for land use development projects was the most appropriate and effective approach for assessing the GHG emission impacts. The tiered approach includes three methods, any of which can be used for any given project:

1. *Qualitative GHG Reduction Strategies (i.e., Climate Action Plans)*: A qualitative threshold that is consistent with AB 32 Scoping Plan measures and goals; or,
2. *Bright-Line Threshold*: Numerical value to determine the significance of a project’s annual GHG emissions; or,
3. *Efficiency-Based Threshold*: Assesses the GHG impacts of a project on an emissions per capita basis.

For most projects, the Bright-Line Threshold of 1,150 Metric Tons CO₂/year (MT CO₂e/year) will be the most applicable threshold. In addition to the land use development threshold options proposed above, a bright-line numerical value threshold of 10,000 MT CO₂e/year was adopted for stationary source (industrial) projects.

It should be noted that projects that generate less than the above-mentioned thresholds will also participate in emission reductions because air emissions, including GHGs, are under the purview of the CARB (or other regulatory agencies) and will be “regulated” by the CARB, Federal Government, or other entities. For example, new vehicles will be subject to increased fuel economy standards and emission reductions, large and small appliances will be subject to more strict emissions standards, and energy delivered to consumers will increasingly come from renewable sources. Other programs that are intended to reduce the overall GHG emissions include Low Carbon Fuel Standards, Renewable Portfolio standards, and the Clean Car standards. As a result,

even the emissions that result from projects that produce fewer emissions than the threshold will be subject to emission reductions.

Under CEQA, an individual project’s GHG emissions will generally not result in direct significant impacts. This is because the climate change issue is global in nature. However, an individual project could be found to contribute to a potentially significant cumulative impact. Projects that have GHG emissions above the noted thresholds may be considered cumulatively considerable and require mitigation.

California GHG Reduction Goals

California has passed several pieces of legislation in the past few years aimed at dealing with GHG emissions and climate change. Executive Order S-3-05 set a goal to reduce California’s GHG emissions to: (1) 2000 levels by 2010; (2) 1990 levels by 2020; and (3) 80% below 1990 levels by 2050. These goals were reinforced in 2006 with the passage of AB 32, which set forth the same emission reduction goals and further mandated that the CARB create a plan, including market mechanisms, and develop and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Executive Order S-01-07 set forth California’s low carbon fuel standard, which requires the carbon intensity of the state’s transportation fuels to be reduced by 10% by 2020. In addition, SB 97 required amendments to the State CEQA Guidelines to address GHG emissions; the amendments were put into effect on March 18, 2010.

5.8.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.8.4 Discussion of Checklist Responses

a. [Finding]. [explanation]

[*CalEEMod results*]

b. [Finding].

The Bright-Line Threshold of 1,150 Metric Tons CO₂/year (MT CO₂e/year) is the most applicable threshold for the proposed project. In addition to the land use development threshold options proposed above, a bright-line numerical value threshold of 10,000 MT CO₂e/year was adopted for stationary source (industrial) projects.

[Will also depend on CalEEMod results]

Finding. *[Finding]*

5.9 HAZARDS AND HAZARDOUS MATERIALS

5.9.1 Background

The project site is located in an urbanized area primarily designated as a Non-Very High Fire Hazard Severity Zone (Non-VHFHSZ). The areas directly north and east of the project site, as well as areas west of Highway 101 (approximately 0.25 miles away), are characterized as High Fire Hazard Severity (CalFire, 2009).

The WWTP site has not been listed by the U.S. EPA as a hazardous material site (EPA, 2019). There are no sites in the treatment plant study area listed on the Cortese list (California Department of Toxic Substances Control Hazardous Waste and Substances Site List – Site Cleanup [Cortese List]; accessed May 2019). According to SWRCB's Geotracker database, there are no LUSTs in the project area (SWRCB, 2019).

5.9.2 Regulatory Setting

Materials and waste may be considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode or generate vapors when mixed with water (reactivity). Hazardous material is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

STATE REGULATIONS

U.S. EPA has granted the State of California primary oversight responsibility to administer and enforce hazardous waste management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a report that describes their facilities, inventories, emergency response plans and training programs. Hazardous materials are defined as raw or unused materials that are part of a process or manufacturing step. They are not

considered to be hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

Other Laws, Regulations, and Programs

Various other state regulations have been enacted that affect hazardous waste management, including:

- Safe Drinking Water and Toxic enforcement Act of 1986 (Proposition 65), which requires labeling of substance known or suspected by the state to cause cancer
- California Government Code Section 65962.5, which requires the Office of Permit Assistance to compile a list of possible contaminated sites in the state
- Cal/OSHA, which requires construction projects to implement safe hazardous material handling, transfer, storage, and maintenance

State and federal regulations also require that hazardous materials sites be identified and listed in public records. These lists are:

- Comprehensive Environmental Response, Compensation, and Liability Information System
- National Priorities List for Uncontrolled Hazardous Waste Sites
- Resource Conservation and Recovery Act
- California Superfund List of Active Annual Work plan Sites
- Lists of state-registered underground and leaking underground storage tanks

SAN LUIS OBISPO COUNTY REGULATIONS

The San Luis Obispo County Environmental Health Department has been appointed as the administering agency for the regulation of hazardous waste. Prior to initiation of construction activities, a business or entity is required to submit a Hazardous Materials Business Plan if the entity handles or stores hazardous materials/wastes at or above the following threshold quantities (County of San Luis Obispo, 2017):

- 55 gallons of liquid
- 200 cubic feet of gas
- 500 pounds of solid
- Radioactive materials (where an emergency plan is required by law)
- Extremely Hazardous Substances (at or above the threshold planning quantities)

San Luis Obispo County General Plan Safety Element

The Safety Element of the San Luis Obispo General Plan addresses a wide range of issues related to human safety and hazards, including hazardous wastes and materials and emergency preparedness. The overall intent of the Element is to protect persons and their property by

identifying potential hazards within the community, minimizing these potential risks whenever possible, and providing for appropriate and timely response in cases of catastrophic events.

Policy S-13 – Pre-Fire Management: New development in fire hazard areas should be configured to minimize the potential for added danger with the implementation of the following measures:

Standard S-29: Identify high value and high risk areas, including urban/wildland interface areas, and develop and implement mitigation efforts to reduce the threat of fire.

Standard S-30: Site homes near one another to the extent practicable to reduce the need for multiple response teams during fires. Require that the subdivision design be reviewed by fire safety personnel. Require the clustering of lots of buildings in high and very high fire hazard areas as appropriate. New developments in high and very high fire hazard areas should maintain open areas large enough to allow for control burns and other vegetation management programs.

Standard S-32: Require fire resistant material to be used for building construction in fire hazard areas.

Program S-33: Work with homeowners to improve fire safety and defensibility on developed parcels. Defensible space should be required around all structures in high and very high fire hazard areas.

SAN MIGUEL COMMUNITY PLAN

For projects within 135 feet of the railroad, a Phase II environmental site assessment is required (County of San Luis Obispo, 2016). The purpose of a Phase II site assessment is to determine the presence, or absence of, petroleum products or hazardous waste in the subsurface of the site. Because the distance between the project site and the railroad is just greater than 135 feet, a Phase II environmental site assessment is not expected to be required.

5.9.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.9.4 Discussion of Checklist Responses

a. Less Than Significant With Mitigation. Heavy equipment related to trenching, grading, and construction of the proposed project would require the use of fuel and petroleum based lubricants, and would require regular maintenance of equipment. Both the frequency of maintenance and the large volumes of fluids required to service the equipment increase the risk of accidental spillage. However, as discussed in Section VI (Geology and Soils), statutorily required standard measures, including the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of the Statewide General Construction Permit will ensure that potential impacts from accidental leaks or spills are less than significant.

Operation of the project would involve the transport, storage, use or disposal of hazardous materials including diesel fuel. The project would be required to conform to local, state and federal laws regarding the transport, storage, use, and disposal of hazardous materials. In addition, the District is required to comply with local laws, and submit a Hazardous Materials Business Plan to the County Environmental Health Department. Based on compliance with existing standards and implementation of mitigation measures HM-1 and HM-2, operational impacts would be less than significant.

b. Less Than Significant With Mitigation. During any earth-moving operations (grading, trenching, etc.) within the existing facility areas, there is a possibility that unexpected hazardous materials could be encountered or unearthed. Hazardous materials in the construction area could create a risk to workers and the general public during excavation and transport. If contaminated soil is encountered and has to be removed from the construction area, it must be transported according to State and Federal regulations and be replaced with imported soil approved for backfilling if necessary. In these cases, the contractor must comply with all applicable regulations.

Accidental releases of hazardous materials used on-site during operation of the wastewater treatment plant (i.e., fuels, lubricants, and disinfecting compounds such as chlorine) would have the potential to adversely affect onsite workers, public health, and/or the environment. Spillage of fuels or chemicals could result in a threat of fire or explosion or other situations that may pose a threat to human health and/or the environment. Releases could occur as a result of vehicular accidents, equipment malfunction, or improper storage. The San Luis Obispo County Department of Community Health, Environmental Division, requires a Hazardous Materials Business Plan for operation of the WWTP. Cal/OSHA requires construction projects to implement safe hazardous material handling, transfer, storage, and maintenance. Projects are required to have designated staging/maintenance areas, standard operating procedures, and emergency response planning for the use of hazardous materials onsite. Based on compliance with existing standards and implementation of mitigation measures HM-1 and HM-2, impacts are considered less than significant.

c. Less Than Significant With Mitigation. The proposed project is within one-quarter mile of San Miguel Joint Union School, Almond Acres Charter Academy, and Lillian Larsen Elementary School. Based on compliance with existing standards, implementation of mitigation measures HM-

1 and HM-2, and implementation of mitigation measure AQ-4, impacts are considered less than significant.

d. No Impact. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control Hazardous Waste and Substances Site List – Site Cleanup [Cortese List]; accessed May 2019). Therefore, no impact would occur as a result of the proposed project.

e. No Impact. The nearest public airport to the project site, the Paso Robles Municipal Airport, is seven miles away. The project site is not located within the Airport Safety Zones established in the Airport Land Use Plan (City of Paso Robles, 2007). Therefore, no impacts would occur.

f. No Impact. The project site is located 0.3 miles from one former landing strip, Sinclair Field/Flying R Ranch Airfield. This airstrip is no longer in use and the District plans to re-designate this area as Commercial Service and Residential Single Family land uses (County of San Luis Obispo, 2016). Therefore, no impact would occur as a result of the proposed project.

g. No Impact. The proposed project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No impact would occur.

h. Less Than Significant With Mitigation. The project site is located in an urbanized area primarily designated as a Non-Very High Fire Hazard Severity Zone (Non-VHFHSZ). The areas directly north and east of the project site, as well as areas west of Highway 101 (approximately 0.25 miles), are characterized as High Fire Hazard Severity (CalFire, 2009). The river may act as a buffer for wildland fires occurring to the east of the project area. The proposed WWTP is expected to be manned 24 hours per day, 7 days per week, and the closest fire station is approximately five minutes away from the project site. Mitigation measures HM-3 through HM-5 should be implemented to reduce the risk of loss, injury, or death from wildland fires. With the implementation of mitigation measures, impacts are expected to be less than significant.

Finding. Based on the implementation of mitigation measures identified below, potential impacts associated with hazards and hazardous materials would be mitigated to a less than significant level.

5.9.5 Mitigation Measures

HM-1: Prior to initiation of construction activities, the Contractor shall prepare and submit to the County of San Luis Obispo Department of Environmental Health a contingency plan for handling hazardous materials, whether found or introduced on-site during construction. This plan shall include standard construction measures as specified in local, state and federal regulations for hazardous materials, removal of on-site debris, and confirmation of presence of pipelines on-site. At a minimum, the following measures shall be included in the contingency plan:

- a. If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g., trenching, excavation, grading),

construction shall be halted and the Hazardous Material Control Plan (HMCP) implemented.

- b. Instruct workers on recognition and reporting of materials that may be hazardous.
 - c. Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations.
 - d. Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations.
 - e. Forward to engineer, copies of reports, permits, receipts, and other documentation related to remedial work.
 - f. Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations.
 - g. File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract.
- HM-2: Prior to operation, the Contractor shall complete and submit a Hazardous Materials Business Plan to the SMCSD staff or their designee, and the County of San Luis Obispo Department of Environmental Health. As a component of the Hazardous Materials Business Plan, detailed procedures for handling and storage of hazardous materials used on site, and response to emergency or accidental releases of hazardous materials used on site shall be included.
- HM-3: Any structures shall be built to the Uniform Fire Code adopted by the County of San Luis Obispo. Any structures within high and very high fire areas shall contain a “defensible space” that provides a safety zone for firefighters, structures and the public.
- HM-4: During construction, staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of combustible materials in order to maintain a fire break.
- HM-5: Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws.

5.10 HYDROLOGY AND WATER QUALITY

5.10.1 Background

SURFACE WATER RESOURCES

The PIA is located within the Salinas River Watershed (Hydrologic Unit Code 8: 18060005) in the Paso Robles Creek-Lower Salinas River Sub-Watershed (Hydrologic Unit Code 10: 1806000504). The Paso Robles Creek-Salinas River watershed encompasses approximately 143,654 acres in San Luis Obispo’s north county region. This watershed includes the town of San

Miguel. The peak elevation within this watershed is approximately 2,460 feet above mean sea level, located at the western boundary. The headwaters of this watershed originate in the Coast Ranges, east of the city of Paso Robles, and flow to the Salinas River and to the Monterey Bay National Marine Sanctuary (SLO Watershed Project, 2019).

The Salinas River passes through San Miguel just after joining with the Estrella River. The Estrella River typically exhibits little to no flow during the summer months and average flows of up to 485 cubic feet per second (CFS) during the winter, depending on precipitation. At the project location, combined flows within the Salinas River range from little to no flow during the summer to estimated average flows of up to 1,000 CFS during the winter (USGS, 2019(a)). According to the USGS watershed delineation tool, StreamStats, at the location of the project site, the Salinas River is predicted to experience peak flows of 4430 CFS during the 2-year peak storm to up to 107,000 CFS during the 100-year peak storm. The full StreamStats Report is included as [*Attachment B*] to this initial study.

As of 2010, the Salinas River (upper, confluence of Nacimiento River to Santa Margarita Reservoir) was listed as an impaired waterbody by the U.S. Environmental Protection Agency (EPA) (EPA, 2010). This waterbody is listed as impaired for the following uses: agricultural supply, municipal and domestic supply, non-contact water recreation, and water contact recreation. The causes of impairment include chloride, sodium, and pH, with the following probably sources contributing to impairment: agriculture, livestock (grazing or feeding operations), managed pasture grazing, natural sources, unspecified urban stormwater, and urban runoff/storm sewers (EPA, 2010).

The District is considering the possibility of blending treated WWTP effluent with surface water from the Salinas River to reduce salt concentrations and create a water supply that is suitable for vineyard irrigation. In March 2019, water quality samples were taken from the Salinas River and tested by FGL Environmental Agricultural Analytical Chemists. The sampling results are displayed in Table 4. As shown in the table, all water quality constituents fall in the degree of restriction of either None or Slight to Moderate for crop irrigation.

Table 4. Water quality of the Salinas River and degrees of restriction for crop irrigation.

Current Conditions (Based on Quality Control Sampling Performed by FGL Environmental on March 5, 2019)			Degree of Restriction for Crop Irrigation		
Constituent	Units	Salinas River Concentration	None	Slight to Moderate	Severe
Metals, Total					
Arsenic	mg/L	0.002	-	0-0.2	>0.2
Boron	mg/L	0.2	-	0-2	>2
Copper	mg/L	0.005	-	0-0.2	>0.2
Total Hardness as CaCO ₃	mg/L	127	-	0-200	>200
Calcium	mg/L	31	-	0-400	>400
Magnesium	mg/L	12	-	0-60	>60
Iron	mg/L	0.07	<0.5	0.5-1.5	>1.5
Lead	mg/L	0.0022	-	0-0.01	>0.01
Manganese	mg/L	0.0712	-	0-0.5	>0.5
Potassium	mg/L	14	-	0-20	>20
Sodium Absorption Ratio (SAR)	-	2.5	>1.2	0.3-1.2	<0.3
Sodium	mg/L	64	<69	69-207	>207
Wet Chemistry					
Ammonia Nitrogen	mg/L	No Data*	-	0-5	>5
Alkalinity (as CaCO ₃)	mg/L	120	-	0-200	>200
Bicarbonate	mg/L	140	<91.5	91.5-519	>519
Carbonate	mg/L	No Data*	-	0-3	>3
Hydroxide	mg/L	No Data*	-	0-0.1	>0.1
Chloride	mg/L	16	<142	142-355	>355
Specific Conductance	Ds/m	0.422	<0.7	0.7-3	>3
Nitrate Nitrogen	mg/L	0.3	-	0-10	>10
Nitrogen, Total as Nitrogen	mg/L	No Data*	-	0-30	>30
Nitrate + Nitrite as N	mg/L	0.3	-	0-10	>10
Kjeldahl Nitrogen	mg/L	No Data*	-	0-10	>10
pH	units	7.7	Normal Range: 6.5-8.4		
Phosphorus, Total	mg/L	0.3	-	0-2	>2
Total Dissolved Solids (TFR)	mg/L	270	<450	450-2000	>2000
Total Suspended Solids (TSS)	mg/L	42	No Limit		
Sulfate	mg/L	61.9	-	0-300	>300
Turbidity	NTU	17.8	No Limit		

*No Data implies that the constituent was below the PQL (Practical Quantitation Level), meaning that the constituent has a negligible impact on water quality.

GROUNDWATER RESOURCES

The SMCS D relies entirely on groundwater as its source of water supply. The SMCS D currently derives its water supply from three water supply wells. These wells are designated as follows:

- Well No. 3 which is located off 12th Street
- Well No. 4 which is located off Bonita Place
- San Lawrence Terrace (SLT) Well which is located off Martinez Drive

Each of these wells produces groundwater from the Paso Robles Formation (QT_p) which is a significant water-bearing unit within the Paso Robles Groundwater Basin. San Miguel is at the northern edge of the Estrella subarea of the Paso Robles Groundwater Basin, where the depth to the base of permeable sediments reaches approximately 2,400 feet below sea level, with a saturated thickness of close to 3,000 feet. Water wells in the Estrella area are typically less than 600 feet deep. Limited specific capacity data from wells in the region suggest a range of less than 2 GPM/ft to as high as 6 GPM/ft. Well yields in the San Miguel area generally range from less than 100 GPM to several hundred GPM.

A relatively shallow groundwater system is present in the PIA which is associated with the Salinas River alluvial and flood plain deposits. Groundwater in these unconsolidated soils is typically encountered at a depth of about 15 to 25 feet beneath the WWTP property.

SMCSD Groundwater Trends and Production Capacity

There is evidence that groundwater levels in the SMCSD area have been declining over recent years. Figure 10 depicts historic trends in groundwater levels within the Paso Robles Groundwater Basin in the vicinity of the District. The cluster of monitoring wells from which the data was taken is located at the intersection of River Road and Power Road, on the east side of the Salinas River. The location of subject monitoring wells is presented below in Figure 11 (SMCSD, 2017).

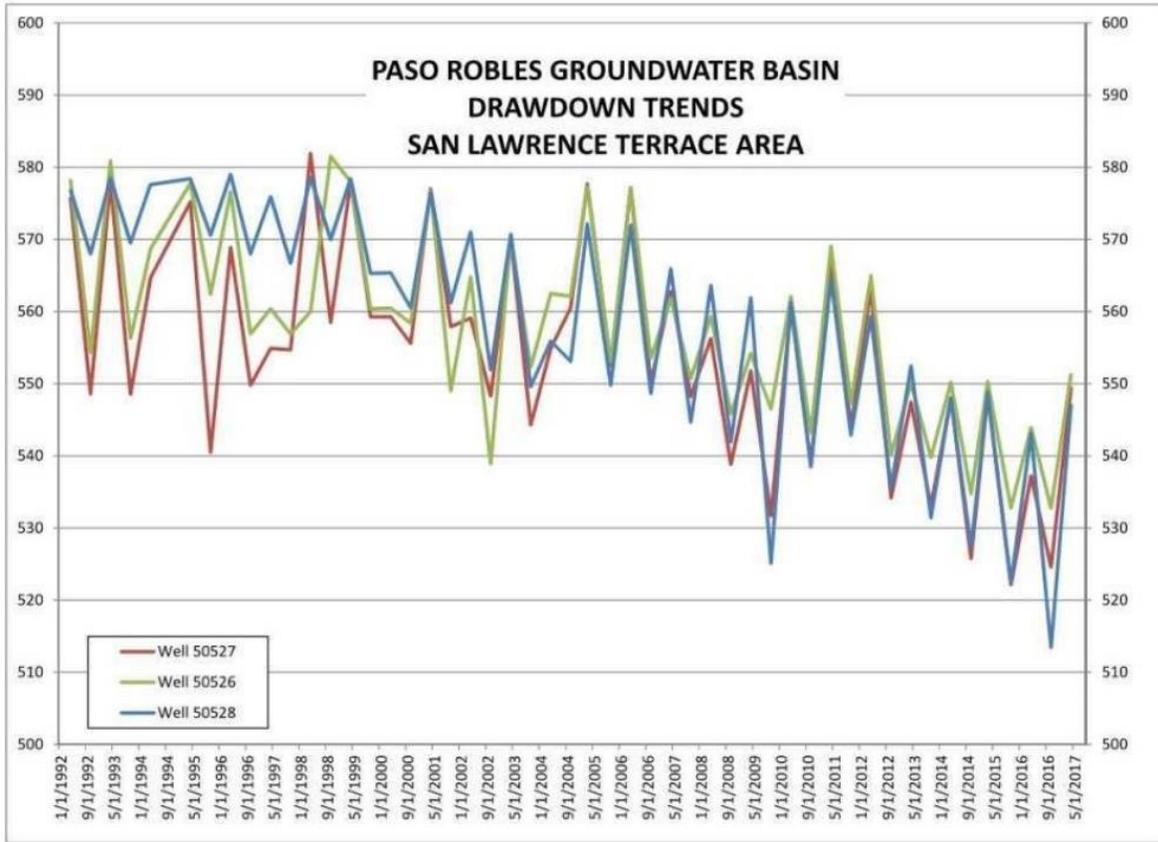


Figure 10. Paso Robles Groundwater Basin Drawdown Trends - San Lawrence Terrace Area



Figure 11. Monitoring well location map

A graphical depiction of the trends in drawdown in the three well cluster is presented below. The period of record is from April 1992 through April 2017. Water levels are measured by SLO County each April and October. Based on a review of the historic data, it appears that there is generally an increase in the groundwater table elevation after the winter rainy season, with the magnitude of recovery ranging from 10-30 feet. It is also evident that there is a long-term declining trend in the groundwater table over the period of record. The declining groundwater level in the basin has a direct impact on the production capacity of each of the SMCSD water supply wells. As the water level declines, the production capacity of the wells also decreases.

An analysis was performed on the historic pumping records for each of the SMCSD water supply wells to estimate the current pumping capacity and the probable annual production yield. Utilizing the daily and monthly pumping records for the period between January 2015 and September 2017, the average production capacity for each of the wells was estimated. The results of the analysis are summarized in Table 5.

A comparison was made between the production capacities of the three SMCSD wells with similar data for the period between 1999 and 2000 (Referenced from the Water Masterplan for SMCSD, dated March 2002). Based on the results of the comparison, it appears that the total combined pumping capacity from the SMCSD wells has declined from 1300 GPM in 2002 to 1156 GPM in 2017. At the same time, the historical annual production increased from 247 acre-feet per year (AFY) to 276 AFY and the maximum combined supply capacity, assuming all wells are pumping for 12 hours each day for 365 days per year has declined from an annual volume of 1049 AF in 2002 to 932 AF in 2017.

Table 5. Well production capacities.

WELL	CAPACITY ¹ GPM	HISTORICAL PRODUCTION ² AFY	MAXIMUM PRODUCTION ³ AFY
WELL NO. 3	275	85	222
WELL NO. 4	596	190	480
SLT WELL	285	1	230
TOTAL	1156	276	932
Notes: <ol style="list-style-type: none"> 1. Well capacity refers to the average observed pumping rate of the well between Jan 2015 - Sep 2017. 2. Historical Production is the average annual amount of water the wells produced between Jan 2015 and Sept 2017. 3. Maximum production is the amount of water the well could produce if pumped at capacity 12-hours per day per year. 			

SOILS

Soils found in the area are discussed in Section VI (Geology & Soils), and generally, the soils are associated with low runoff as exhibited by their hydrologic grouping typically in Group A. The

hydrologic group of a soil is based on properties that affect the soils ability to retain and drain applied water. Soils capable of rapid infiltration and drainage of surface water are placed in hydrologic group A and are characterized by low runoff.

WWTP WATER QUALITY MONITORING

WWTP Sampling Program

The SMCSO performed a sampling program between November and December 2018 to assess the quality of the untreated wastewater entering the WWTP. The sampling program involved taking samples of WWTP influent wastewater and the untreated effluent from Courtside Cellars winery, which is owned and operated by E & J Gallo Winery and in close proximity to the SMCSO WWTP. The SMCSO and Gallo have discussed the possibility of the SMCSO accepting and treating the wineries process wastewater in the future.

WWTP Water Quality

To develop a comprehensive understanding of the WWTP influent and effluent chemistry, SMCSO staff performed a nine-week sampling program between October and December 2017. The sampling plan included the collection of one 24-hour composite sample and multiple grab samples. The samples were tested for dissolved oxygen (DO), pH, temperature, BOD₅, carbonaceous biological oxygen demand (cBOD), total suspended solids (TSS), and nitrogen constituents including ammonia nitrogen, nitrate nitrogen, and Total Kjeldahl Nitrogen (TKN). A summary of the WWTP influent and effluent quality is summarized in Table 6.

Table 6. SMCSO WWTP effluent water quality.

Constituent	Units	Influent 24-hour Composite	Influent Grab	Pond 1 Grab	Pond 2 Grab	Pond 3 Grab	Pond 4 Grab
DO @ 1 feet	mg/L	---	3.59	1.48	9.11	10.11	9.41
DO @ 3 feet	mg/L	---	3.55	1.3	8.38	9.01	9.15
pH	---	7.74	8.37	---	8.1	8.28	8.37
Temperature	°C	---	22.37	15.81	12.64	11.28	10.83
Ammonia (as N)	mg/L	58	69.4	---	1	1.7	0.9
BOD ₅	mg/L	320	334	---	170	46	38
Nitrate (as N)	mg/L	0.1	2.9	---	25.9	23.1	22.2
TKN	mg/L	54.8	77.8	---	17.7	6.6	5.1
TSS	mg/L	130	270	---	193	50	42
cBOD	mg/L	438	310	---	61	22	16

Based on a review of the influent sampling results, the wastewater entering the San Miguel WWTP can be characterized as wastewater between medium and high strength, based on the typical concentrations of untreated domestic wastewater as described in Metcalf and Eddy. Wastewater strength typically increases with conservation efforts, which may indicate why the plant is receiving higher strength wastewater than in years past.

The BOD₅, TSS, and ammonia removal rates through the WWTP were calculated from the sampling results and are shown in Table 7. Based on these sampling results, the WWTP cannot consistently meet a BOD₅ and TSS limit of 30/30 mg/L, which is projected to be the minimum treatment limit under future permit requirements. Also, the sampling results show the plant has an average 89% BOD₅ removal rate and average BOD₅ effluent of 38 mg/L. The average effluent TSS concentration was 42 mg/L, which indicates a poor settling efficiency in the ponds. The sampling results also show that the ponds are currently capable of complete nitrification and on average convert 99% of influent ammonia into nitrate or nitrite, under existing operating conditions.

Table 7. SMCSO WWTP removal rates.

Influent	Influent	Pond 2 Effluent	Pond 3 Effluent	Pond 4 Effluent (Discharge)
BOD, mg/L	334	170	46	38
BOD Removal (%)	---	49%	86%	89%
TSS, mg/L	270	193	50	42
TSS Removal (%)	---	29%	82%	85%
Ammonia (as N), mg/L	69	1	2	1
Ammonia Removal (%)	---	99%	98%	99%

FLOODING

The Salinas River watershed is periodically subject to major flooding. Intense but infrequent winter storms can result in significant watershed runoff. Flooding conditions are caused when preceding rains have saturated the watershed. Surging flood flows usually peak within hours and may last several days. These flood events have caused extensive damage to agricultural land, infrastructure, public and private buildings and properties.

The National Flood Insurance Program 100-year floodplain is considered to be the base flood condition. This is defined as a flood event of a magnitude that has a 1% chance of occurring each year. Floodways are defined as stream channels plus adjacent floodplains that must be kept free of encroachment as much as possible so that 100-year floods can be carried without substantial increases (no more than one foot) in flood elevations.

The SMCSO WWTP is located on the west side of the Salinas River. The site includes four separate parcels with a combined area of approximately 38.4 acres. The eastern portion of the site is located within FEMA Special Flood Hazard Area (Zone A) and contains approximately 20.6 acres. The remaining 17.8 acres, within which the existing WWTP is located, are designated Zone X by FEMA, indicating that there is a minimal risk of flooding in those areas. A map depicting the location of the FEMA Special Flood Hazard Area in the vicinity of the WWTP is included in Figure 12.

Dam Inundation

The project area is downstream from the Salinas Dam, which is located on Santa Margarita Lake, approximately 9.5 miles northeast of the City of San Luis Obispo. According to the Dam Inundation Map provided by the County of San Luis Obispo Safety Element, the project site is within an area that is at risk of inundation if the Salinas Dam fails (County of San Luis Obispo, 2019(b)).

Climate Change Impacts to Flood Flows

Although uncertainties remain about future changes in long-term average precipitation rates in California, it is generally expected that extreme precipitation episodes will become even more extreme as the climate changes. Projected increases in frequency and magnitude of extreme storm events would result in increased exposure of population, property, and facilities within 100-year (1 percent) and 500-year (0.2 percent) floodplains in many parts of the state. As the climate changes, the WWTP site could become more vulnerable to flooding from the Salinas River. More information on climate change impacts to flood flows, developed by the California Department of Water Resources and the U.S. Army Corps of Engineers, is included in the following section.

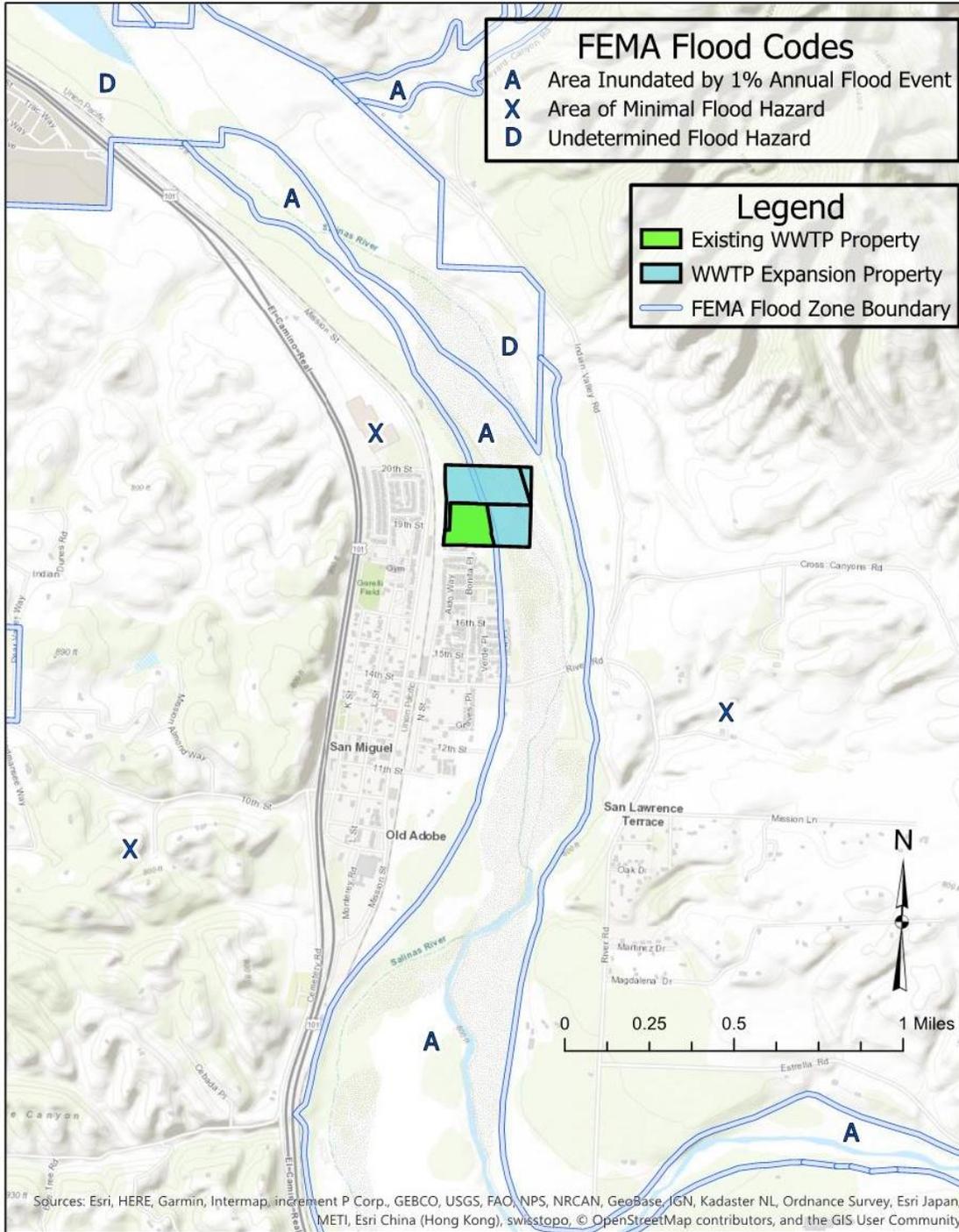


Figure 12. FEMA Flood Map

[Figure of proposed layout showing location of structures in reference to floodplain – To be added after site layout determined]

5.10.2 Regulatory Setting

SURFACE WATER REGULATIONS

Climate Change Impacts on Precipitation and Runoff Patterns

The California Department of Water Resources developed *California's Flood Future: Recommendations for Managing the State's Flood Risk* to help inform local, State, and Federal decisions about policies and financial investments to improve public safety, foster environmental stewardship, and support economic stability. Information regarding impacts of climate change on precipitation and runoff is repeated in the following paragraphs (DWR, 2013).

Climate change is projected to cause global increases in temperatures that will likely lead to shifts in the timing and magnitude of precipitation and runoff in California. Researchers suggest that, although the total volume of precipitation is not likely to change significantly during the next several decades, seasonal timing of precipitation might shift, which could increase flood peak flows and flood volumes (Miller et al., 2003; Fissekis, 2008; CEC, 2009b; Das et al., 2011). Increased temperatures might alter precipitation and runoff patterns, resulting in higher snowline elevations, snowmelt occurring earlier in the year, and less overall snowpack. If precipitation events occur concurrently with warmer temperatures, more of the precipitation would fall as rain rather than snow.

Such changes would increase the extent and depth of floodplains because more watershed area contributes to direct runoff. In this case, the precipitation would flow into the watersheds instead of accumulating as snowpack, thus increasing the amount of runoff at that time of year. This change would produce temporary shifts in reservoir inflows, resulting in significant challenges for flood storage capacity in major reservoirs.

Increased temperature alone might be expected to alter flooding patterns; however, changes in storm types, frequencies, or magnitudes might result in more direct impacts. Historically, the most dangerous storms in California have been extreme events (e.g., warm and wet storms that strike in winter, producing intense rains over large areas).

Therefore, climate change likely will result in more frequent extreme precipitation events. Although uncertainties remain about future changes in long-term average precipitation rates in California, it is generally expected that extreme precipitation episodes will become even more extreme as the climate changes (Dettinger, 2011). Projected increases in frequency and magnitude of extreme storm events would result in increased exposure of population, property, and facilities within 100-year (1 percent) and 500-year (0.2 percent) floodplains in many parts of the state.

Potential changes in the frequency and magnitude of extreme storm events should be accounted for in statewide and local water planning in California. The *California Climate Adaptation Planning Guide* (CalEMA and CNRA, 2011) and *Climate Change Handbook for Regional Water Planning* (EPA and DWR, 2011) provide guidance to local agencies for considering climate change in water management planning.

GROUNDWATER REGULATIONS

Sustainable Groundwater Management Act

The 2014 Sustainable Groundwater Management Act requires local public agencies and Groundwater Sustainability Agencies (GSAs) in high- and medium-priority basins to develop and implement Groundwater Sustainability Plans (GSPs) or Alternatives to GSPs. GSPs are detailed road maps for how groundwater basins will reach long term sustainability. The Paso Robles Groundwater Basin is designated as a high-priority basin as of 2019 (DWR, 2019).

Paso Robles Basin Groundwater Management Plan

The Paso Robles Basin Groundwater Management Plan (City of Paso Robles, 2011) was developed to establish a framework for coordinating management activities associated with surface water and groundwater to maintain and enhance groundwater levels and water quality while minimizing inelastic land subsidence. The Groundwater Management Plan confirmed that groundwater levels within the Estrella Subarea have steadily declined during the period from 1981 to 2009 by over 70 feet, with the largest decline in groundwater level (50 feet) occurring between 1997 and 2009. This decline is attributed to the below-average precipitation and correlated increased demand on groundwater supplies. The goal established for this sub-area aims to return the groundwater level to the level present in 2009.

County of San Luis Obispo Resource Capacity Study

In January 2007, the County of San Luis Obispo Board of Supervisors directed the preparation of a Resource Capacity Study (RCS) for the Paso Robles Groundwater Basin in accordance with the County's Resource Management System (RMS). The RMS is a mechanism for ensuring a balance between land development and the resources necessary to sustain such development. When a resource deficiency becomes apparent, efforts are made to determine how the resource might be expanded, whether conservation measures could be introduced to extend the availability of unused capacity, or whether development should be limited or redirected to areas with remaining resource capacity. The RMS is designed to avoid adverse impacts from depletion of a resource.

The RMS describes a resource in terms of its "level of severity" (LOS) based on the rate of depletion and an estimate of the remaining capacity, if any. In response to a resource issue or recommended LOS, the Board of Supervisors may direct a Resource Capacity Study (RCS) be conducted. An RCS provides additional details that enable the Board of Supervisors to certify a LOS and adopt whatever measures are needed to eliminate or reduce the potential for undesirable consequences.

- **LOS I:** Level I is reached for a water resource when increasing water demand projected over nine years equals or exceeds the estimated dependable supply.
- **LOS II:** Level II for a water resource occurs when water demand projected over seven years (or other lead time determined by a resource capacity study) equals or exceeds the estimated dependable supply.

- **LOS III:** A Level of Severity III exists when water demand equals the available resource; the amount of consumption has reached the dependable supply of the resource.

In February 2011, the County Board of Supervisors approved the Paso Robles Groundwater Basin Resource Capacity Study (RCS), which links the state of the basin to land use policy, basin monitoring and water conservation. The RCS concludes that the groundwater basin is approaching or has reached its “perennial yield” – the amount of usable water of a groundwater basin that can be withdrawn and consumed economically each year for an indefinite period of time. The RCS established an LOS III for the main basin. The County Board of Supervisors, after considering a number of studies about this groundwater basin and approving related documents [i.e., Paso Robles Groundwater Basin Resource Capacity Study (RCS), February, 2011; Paso Robles Groundwater Basin Management Plan (GMP), March 2011], have concluded the following conditions exist:

- Groundwater levels are generally dropping throughout the basin.
- Pumping of groundwater from the basin has reached or is quickly approaching the basin’s “perennial yield.”

California law does not allow the County to limit how much water a property owner pumps from the ground. The County must use only the authority it has to address this issue.

WATER QUALITY REGULATIONS

Clean Water Act

Waters of the United States are regulated by the Clean Water Act (33 USC 1344). The Clean Water Act (CWA) established the National Pollutant Discharge Elimination System (NPDES) for regulating effluent discharges to surface waters such as the South Yuba River. Specifically, the CWA prohibits the discharge of any waste into surface waters without a permit, requires the establishment of water quality standards for contaminants, and grants authority to the U.S. Environmental Protection Agency (EPA) to implement pollution control programs. The EPA has delegated the authority to administer and enforce the CWA and the NPDES program to the State of California. However, section 404 of the CWA is under the jurisdiction of and administered by the U.S. Army Corps of Engineers (Corps), and regulates the discharge of fill or other materials to waters of the United States.

Porter Cologne Water Quality Control Act

The State of California established the State Water Resources Control Board (SWRCB), which oversees nine Regional Water Quality Control Boards, through the Porter-Cologne Water Quality Control Act (Porter-Cologne). Through the enforcement of the Porter Cologne Act, the SWRCB determines the beneficial uses of the waters (surface and groundwater) of the state, establishes narrative and/or numerical water quality standards, and initiates policies relating to water quality. The SWRCB and, more specifically, the Regional Water Boards, are authorized to prescribe Waste Discharge Requirements (WDRs) for the discharge of waste, which may impact the waters of the

State, including National Pollutant Discharge Elimination System (NPDES) Permits for discharge directly to waters of the State.

Local Water Quality Control

The SMCSD WWTP is within the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB) and regulated by Waste Discharge Requirement (WDR) Order No. 99-046. The WDR Order is described in Section 4.3.3. The current WDRs are summarized here:

- Permitted treatment capacity, MGD 0.2 (max. month)
- Effluent limitations: Avg. last 6 samples Maximum

TDS, mg/L	825	900
Chloride, mg/L	180	200
Sulfate, mg/L	175	200
Sodium, mg/L	150	170
- The treatment ponds must maintain a minimum 2.0 feet freeboard at all times, and must maintain dissolved oxygen of 1.0 mg/L minimum at all times.
- Effluent pH shall range between 6.5 and 8.4 at all times.
- Discharge shall not cause nitrate concentrations in downgradient GW to exceed 5 mg/L (as N)
- Discharge shall not cause “significant” increase in TDS.

As these WDRs are approximately 15 years old, it is anticipated that the Regional Board will update the WDRs at some point in the near future. Based on other pond systems in this region, if waste discharge requirements were updated and such effluent limitations were imposed, this WWTP would likely see effluent limitations of “30/30/10,” that is, effluent limitations of 30 mg/L BOD₅, 30 mg/L TSS, and 10 mg/L total nitrogen.

5.10.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.10.4 Discussion of Checklist Responses

a. Less Than Significant With Mitigation. During project construction, grading operations on-site would remove and replace existing WWTP infrastructure, would result in ground disturbance activities for the development of new facilities, and would result in minor vegetation removal, disturb erosive soil layers, and create temporary stockpiles of bare soil. These activities would expose small areas of soil within the project site to the erosive forces of rainfall and runoff as stormwater flows through the project site to Salinas River. In addition, during construction, the use of equipment and storage of materials may result in the incidental leak or spill of fuels or oils, or the discharge of pollutants related to equipment and materials into the Salinas River. As discussed in Sections IV and VI (Biological Resources and Geology and Soils, respectively), statutorily required standard measures, including the preparation and implementation of a SWPPP that meets the statutory requirements of the Statewide General Construction Permit, would ensure that impacts from site alteration, grading and construction are less than significant. BMP examples generally include an effective combination of erosion and sediment controls. Erosion and sediment control measures include barriers such as silt fences, drain inlet protection, gravel bags, etc.

Existing vegetation should be preserved as much as possible. Areas of existing vegetation to be preserved would be identified and delineated on project plan sheets in the required SWPPP. All disturbed areas would be stabilized with vegetation or hard surface treatments upon completion of construction in any specific area. All inactive disturbed soil areas would be stabilized with both sediment and temporary erosion control prior to the onset of the rainy season (October 15–April 15).

Operation of any wastewater treatment plant has the potential to violate water quality standards or waste discharge requirements through improper facility design. Equipment within the plant is designed to accommodate peak flow conditions. Compliance with the WDR permit for the WWTP, and implementation of mitigation measure [*GEO-1 (change to BIO if necessary)*] would ensure that the water quality operational impacts are less than significant.

b. Less Than Significant Impact. The SMCS D currently relies on groundwater to supply treated water to its customers. Persistent drought conditions in California have resulted in depressed groundwater basin levels in the Paso Robles Groundwater Basin, especially in the Estrella Subarea, which is immediately beneath and to the south of the San Miguel. The use of recycled water is an important and integral component of the City’s long-term water management plan, including use of recycled water for irrigation, other non-potable water uses, and basin recharge.

As discussed in the project description, the proposed improvements would facilitate production of tertiary 2.2 quality recycled water, suitable for agricultural use and groundwater recharge. Increasing recycled water use would reduce the need to pump groundwater within the SMCS D, thus, potentially reducing the drawdown impacts on the Paso Robles Groundwater Basin. The project would not negatively affect groundwater quality since this project would not directly extract groundwater or otherwise affect these resources, and the proposed uses do not utilize materials or methods that would result in reduced groundwater quality. Therefore, impacts are expected to be less than significant.

c. [Finding].

[TBD after site plan is developed]

d. [Finding].

[TBD after site plan is developed]

e. [Finding].

[TBD after site plan is developed]

f. Less Than Significant Impact. As discussed in Sections IV and VI (Biological Resources, Geology and Soils) and in Impact discussion IX(a) above, construction and implementation of the project has the potential to result in discharges, potentially degrading the quality of waters within the Salinas River. Implementation of existing regulations, including a Stormwater Pollution Prevention Plan (including BMPs), and compliance with the revised waste discharge permit issued by the RWQCB would mitigate the potential for adverse effects. Therefore, impacts are expected to be less than significant.

g. No Impact. The project does not propose housing within the 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map. No impact would occur.

h. Less Than Significant Impact. Siting of new facility structures should consider proximity to flood hazards as defined on the current FEMA Flood Insurance Rate Maps (FIRMs). The FIRMs show areas affected by both the 100-year and 500-year floods and include features such as floodways, levees, and high hazard flood elevations (Base Flood Elevations – BFEs). Critical facilities located within high hazard flood areas should be elevated above the BFEs.

The proposed project would be built outside of the 100-year flood plain to avoid impacts from flooding. Therefore, impacts would be less than significant.

i. Less Than Significant Impact. As discussed above, implementation of the project would not significantly affect existing flood patterns of the Salinas River and would not expose people or structures to a significant risk of loss, injury, or death. The project area is within an area that is at

risk of inundation if the Salinas Dam fails, however, the probability of dam failure is highly unlikely. Therefore, impacts are expected to be less than significant.

[Re-address sections (h) and (i) if site plan places structures in FEMA flood plain]

j. Less Than Significant Impact. The project site is not located in a coastal zone, where there would be risk of tsunami, nor near a large body of water, where there would be risk of seiche. The landslide/mudflow risk is considered low. Based on the location of the project site, and negligible to low probability of these hazards, the impact is considered less than significant.

Finding. *[finding]*

5.10.5 Mitigation Measures

[Mitigation measures potentially needed for flooding]

5.11 LAND USE AND PLANNING

5.11.1 Background

The PIA is occupied by the existing WWTP and undeveloped land directly to the north of the existing WWTP. The project site has a Public Facility/Residential Suburban land use designation (refer to Figure 3). Surrounding uses include commercial and residential areas to the west and south and open areas associated with the Salinas River to the north and east.

5.11.2 Regulatory Setting

County of San Luis Obispo Land Use Ordinance

New developments must follow the regulations outlined in the San Luis Obispo County Code – Title 22: Land Use Ordinance (LUO). The LUO outlines the permit requirements for developments occurring on parcels that do not have the same land use as the proposed project. Development of a WWTP falls into the category of Public Utility Facility. To develop a Public Utility Facility on a property designated as Residential Suburban, the project must obtain a Conditional Use Permit (County of SLO 2019).

5.11.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.11.4 Discussion of Checklist Responses

a. No Impact. The PIA is occupied by the existing WWTP and undeveloped land directly to the north of the existing WWTP. Surrounding uses include commercial and residential areas to the west and south and open areas associated with the Salinas River to the north and east. The project would occur on the northeastern edge of San Miguel and would not physically divide an established community. Therefore, no impact would occur.

b. Less Than Significant With Mitigation. The project involves developing a Public Utility Facility on parcels designated as Residential Suburban, and requires the completion of a Conditional Use Permit (CUP). Upon completion of the CUP (implementation of mitigation measure LU-1), impacts are expected to be less than significant.

c. [Finding].

The project would comply with the natural resource conservation plan described in the San Miguel Community Plan (County of San Luis Obispo, 2016).

[Mitigation for San Joaquin kit fox, described in more detail after site plan is developed – mitigation ratio 0:0 (existing WWTP), 2:1 (east), 4:1 (northwest) (refer to San Miguel Community Plan)]

Finding. [Finding]

5.11.5 Mitigation Measures

LU-1: Prior to construction, the lead agency shall obtain a Conditional Use Permit, in compliance with Section 22.62.060 of the San Luis Obispo County Code – Title 22: Land Use Ordinance, from the San Luis Obispo Department of Planning and Building.

5.12 MINERAL RESOURCES

5.12.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.12.2 Discussion of Checklist Responses

a. No Impact. The PIA does not support known mineral resources. The proposed project would not result in impacts to native soils, mineral resources, or the loss of availability of known mineral resources. Therefore, no impact would occur as a result of the proposed project.

b. No Impact. There are no known locally-important mineral resource recovery sites located within the PIA. The proposed project would not result in the loss of availability of a locally-important mineral resource recovery site. Therefore, no impact would occur as a result of the proposed project.

Finding. Based on the impact discussion above, no impacts to mineral resources would occur as a result of the proposed project; therefore, no mitigation is required.

5.13 NOISE

5.13.1 Background

The proposed project site is located in the town of San Miguel at the existing WWTP and on expansion properties to the north. Surrounding uses include the railroad, Mission Street, US 101, and commercial and residential uses to the west and south, and open areas associated with Salinas River to the north and east. The proposed WWTP is located on four parcels with a total area of

38.4 acres within public facilities and residential suburban land use categories. Noise resulting from the existing treatment plant operations and traffic noise from the streets and railroad are the primary sources of noise in the immediate project area.

The closest residences are located directly to the south. Additional residences are located approximately 400 feet to the west and approximately 30 feet upslope from the property. Residences to the west are separated from the PIA by the railroad and Mission Street.

OPERATION RELATED NOISE

The project area is currently subject to vehicle traffic noise associated with US 101 throughout the day. Operation of the WWTP is not considered to generate significant daily traffic volumes that would produce noise impacts at any of the existing sensitive noise receptors within an approximately one-mile radius of the project site. The increased traffic volumes which could result from the proposed project would be insignificant when compared to existing traffic volumes. Operation of the new facilities associated with the proposed project would require 1-2 additional employees, which is estimated to result in approximately two additional round trips (four trips total) per workday. Employee trips are the only source of long-term traffic associated with the operation of the proposed project and would generate a minimal increase to existing traffic noise. Operation and maintenance of the proposed facilities is not expected to produce significant traffic volumes that would increase vehicular traffic noise levels.

CONSTRUCTION RELATED NOISE

Development of the secondary and tertiary treatment facilities and ancillary improvements would create temporary increases in the ambient noise level during construction. Construction noise, and how it is perceived, would differ among the various phases of construction, depending on the particular activities, equipment used, and its proximity to sensitive noise receptors. During the initial phases of construction, it is estimated that most of the construction noise would be generated by grading and earthwork operations, using various heavy machinery. Once the site work is finished, construction noise would shift to that typically encountered when building structures (e.g., air compressors, circular saws, hammers, etc.), which typically generate less noise, as well as traffic noise generated by workers commuting to and from the jobsite. In addition, Appendix A of the San Miguel Community Plan includes noise reduction measures to be incorporated into contract specifications including the use of sound-control devices on equipment, restricting idling equipment, and public notification of proposed construction activities. The proposed project would be consistent with the measures included in the San Miguel Community Plan. Additionally, limiting construction activities to daytime hours would minimize the potential effect on nearby residents.

[Significant impacts from construction – determined by noise study]

STATIONARY NOISE

Stationary noise would be generated during the continued operation of the wastewater treatment plant by machinery associated with operation of the plant. Other noise impacts associated with operation of the wastewater treatment plant and disposal area include employee vehicle travel inside the plant and potentially the use of back-up emergency generators in case of a power outage. The nearest sensitive noise receptors (residential neighborhood) to the proposed wastewater treatment plant are located adjacent to the WWTP, directly to the south.

[Proposed project components would/would not result in a significant increase above current ambient conditions – determined by noise study]

5.13.2 Regulatory Setting

SAN MIGUEL COMMUNITY PLAN

For discretionary land use permits or land division applications where new development would be located adjacent to existing residential uses, a site specific noise study should be conducted to demonstrate compliance with the County noise standards in the Land Use Ordinance (Section 22.10.120). For this section, "adjacent" includes properties immediately bordering the existing use where the existing structures are within 50 feet of the project site. This study shall determine the area of impact and present appropriate mitigation measures (County of San Luis Obispo, 2016).

SAN LUIS OBISPO COUNTY LAND USE ORDINANCE

The San Luis Obispo County Land Use Ordinance outlines the noise standards to be applied to projects within the County (County of San Luis Obispo, 2019).

Exterior noise level standards. The exterior noise level standards of this Section are applicable when a land use affected by noise is one of the following noise-sensitive uses: residential uses listed in Section 22.06.030 (Allowable Land Uses and Permit Requirements), except for residential accessory uses and temporary dwellings; health care services (hospitals and similar establishments only); hotels and motels; bed and breakfast facilities; schools (pre-school to secondary, college and university, specialized education and training); churches; libraries and museums; public assembly and entertainment; offices, and outdoor sports and recreation.

1. No person shall create any noise or allow the creation of any noise at any location within the unincorporated areas of the county on property owned, leased, occupied or otherwise controlled by the person which causes the exterior noise level when measured at any of the preceding noise-sensitive land uses situated in either the incorporated or unincorporated areas to exceed the noise level standards in the following table. When the receiving noise-sensitive land use is outdoor sports and recreation, the following noise level standards shall be increased by 10 dB.

Maximum Allowed Exterior Noise Level Standards		
Sound levels	Daytime 7 a.m. to 10 p.m.	Nighttime (1) 10 p.m. to 7 a.m.
Hourly Equivalent Sound Level (L _{eq} , dB)	50	45
Maximum level, dB	70	65

Notes: (1) Applies only to uses that operate or are occupied during nighttime hours

2. In the event the measured ambient noise level exceeds the applicable exterior noise level standard in Subsection B.1, the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB.
3. Each of the exterior noise level standards specified in Subsection B.1 shall be reduced by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.
4. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the exterior noise level standards.

Noise level measurement. For the purpose of evaluating conformance with the standards of this Chapter, noise levels shall be measured as follows.

1. **Use of meter.** Any noise measurement in compliance with this Section shall be made with a sound level meter using the A-weighted network (scale). Calibration of the measurement equipment utilizing an acoustical calibrator shall be performed immediately prior to recording any noise data.
2. **Measuring exterior noise levels.** Except as otherwise provided in this Section, exterior noise levels shall be measured at the property line of the affected noise sensitive land use listed in Subsection B. Where practical, the microphone shall be positioned five feet above the ground and away from reflective surfaces.

5.13.3 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.13.4 Discussion of Checklist Responses

a. Less Than Significant With Mitigation. The proposed project is located adjacent to a residential area to the south, and close to residences to the west. Operation of the new facilities associated with the proposed project would require 1-2 additional employees, which is estimated to result in approximately two additional round trips (four trips total) per workday. Operation and maintenance of the proposed facilities is not expected to produce significant traffic volumes that would increase vehicular traffic noise levels. Stationary noise would be generated during the continued operation of the wastewater treatment plant by machinery associated with operation of the plant.

Construction noise, and how it is perceived, would differ among the various phases of construction, depending on the particular activities, equipment used, and its proximity to sensitive noise receptors. The proposed project would be consistent with the measures included in the San Miguel Community Plan. Additionally, limiting construction activities to daytime hours would minimize the potential effect on nearby residents. Therefore, with the implementation of mitigation measures NS-1 and NS-2, impacts would be reduced to less than significant.

[Update after noise study if necessary]

b. [Finding – Less Than Significant With Mitigation?].

Construction-related noise levels would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment but would only take place between 7am and 6pm. As discussed previously, construction of the proposed project would include the use of *[backhoes, excavators, a concrete crusher, dump trucks, a bulldozer, a high lift crane, flatbed delivery trucks, asphalt pavers, vibratory compactors, water trucks, concrete trucks, and various passenger vehicles – update if needed after design specs and site plan are determined]*. Construction equipment used during the project has been factored into potential noise impacts from the project and may generate localized ground borne vibration or noise levels. Potential ground borne vibrations or noise would be temporary and would occur only during daylight hours. Furthermore, any potential ground borne vibrations or noise would be mitigated with the incorporation of mitigation measures NS-1 and NS-3. Therefore, ground borne noise and vibration impacts are expected to be *[less than significant with mitigation incorporated]*.

c. [Finding – Less Than Significant Impact?].

The operation of the project *[will/will not be similar to existing operations]*. The project *[is/is not expected to cause a permanent significant increase in ambient noise levels]*. The proposed WWTP equipment would be operated continuously over a 24- hour period, with operation slowing slightly during the nighttime hours in connection with decreased wastewater flows. Therefore, impacts are considered to be *[less than significant]*.

d. Less Than Significant With Mitigation. Current ambient noise in the improvement area ranges from *[__ dBA from light traffic and freeway noise (include table of existing ambient noise sources?)]*. The daily operation of the existing WWTP generates relatively little noise when compared to background noise levels. Construction-related noise levels would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. Noise levels from typical individual pieces of construction equipment generally range from 70 to 90 dBA at a distance of approximately 50 feet (U.S. Department of Transportation 2006). Construction will occur during *[dates]* and will be temporary in nature, so noise levels will be reduced to ambient levels associated with the upgraded WWTP after construction is completed.

The nearest noise receptor in the vicinity of the WWTP project site that would be affected by construction generated noises are houses located 50 feet south of the project impact area. Current

WWTP [*operations are audible – correct after noise study if necessary*] from the WWTP property line and from the location of the nearest noise receptor. Mitigation measures NS-1, NS-2, and NS-3 will be implemented to assist in keeping noise levels for surrounding residents at acceptable levels during construction. With the implementation of mitigation measures, impacts are considered to be less than significant.

e. No Impact. The project is not located within an airport land use plan area, or within two miles of a public airport or public use airport. No impacts would occur.

f. No Impact. The project site is located 0.3 miles from one former private landing strip, Sinclair Field/Flying R Ranch Airfield. This airstrip is no longer in use and the District plans to re-designate this area as Commercial Service and Residential Single Family land uses (County of San Luis Obispo 2016). Therefore, no impact would occur as a result of the proposed project.

Finding. [*finding*]

5.13.5 Mitigation Measures

NS-1: Prior to initiation of construction activities, the project Contractor shall prepare a Noise Control Plan which will include Noise Reduction Best Management Practices for all phases of construction. The plan shall be submitted to the SMCSO for approval and shall include the following Noise Reduction Best Management Practices:

- a. Limit the operation of heavy equipment and loud activities to the hours of 7:00 a.m. to 6:00 p.m.;
- b. Shield especially loud pieces of stationary construction equipment;
- c. Locate portable generators, air compressors, etc. away from sensitive noise receptors;
- d. Limit grouping major pieces of equipment operating in one area to the greatest extent feasible;
- e. Place heavily trafficked areas such as the maintenance yard, equipment, tool, and other construction oriented operations in locations that would be the least disruptive to surrounding sensitive noise receptors;
- f. Ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer; and,
- g. Conduct worker-training meetings to educate and encourage noise awareness and sensitivity. This training should focus on worker conduct while in the vicinity of sensitive receptors (i.e., minimizing and locating the use of circular saws in areas adjacent to sensitive receptors and being mindful of shouting and the loud use of attention drawing language)

NS-2: Locate mechanical equipment, including blowers, pumps, air compressors, etc. within sound-proof enclosures.

NS-3: For discretionary land use permits or land division applications where new development would be located adjacent to existing residential uses, a site-specific noise study should be conducted to demonstrate compliance with the County noise standards in the Land Use Ordinance (Section 22.10.120). For this section, “adjacent” includes properties immediately bordering the existing use where the existing structures are within 50 feet of the project site. This study shall determine the area of impact and present appropriate mitigation measures.

5.14 POPULATION AND HOUSING

5.14.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.14.2 Discussion of Checklist Responses

a. Less Than Significant Impact. The proposed project is located within the community of San Miguel, within the existing WWTP site and on two parcels to the north of the existing WWTP. No housing is present onsite. The project does not propose any new housing. The proposed project would increase the capacity of the WWTP to accommodate wastewater flows from the 2050 population projection. The project would be built based on current projections; the project is not expected to induce substantial population growth. Workers employed during the construction phase would most likely come from surrounding communities and would not require any new long-term housing. Therefore, impacts are expected to be less than significant.

b. No Impact. The proposed project would not remove any existing housing. No impacts would occur.

c. No Impact. The proposed project would not displace people or require the construction of replacement housing. No impacts would occur.

Finding. Based on the impact discussion above, potential impacts associated with population and housing would be less than significant; therefore, no mitigation is required.

5.15 PUBLIC SERVICES

5.15.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES: Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.15.2 Discussion of Checklist Responses

a. Less Than Significant Impact. The project site is served by the San Miguel Fire Department. The San Miguel fire station is located approximately three minutes from the project site at 1150 Mission Street in San Miguel. Access to the project site would be from Bonita Place. The proposed project would not impose a significant demand for fire protection services. No new public service facilities or personnel would be required. Anticipated impacts are considered less than significant and no mitigation is required.

b. Less Than Significant Impact. The community of San Miguel is currently served by the San Luis Obispo Sheriff's Department, which is located on 356 N Main Street, Templeton, CA, approximately 17 minutes from the project site (County of San Luis Obispo, 2016). Access to the project site would be from Bonita Place. Wastewater treatment facility operations do not have a

high demand for police protection. No new public service facilities or personnel would be required. Anticipated impacts are considered less than significant and no mitigation is required.

c. No Impact. The project site is located within the San Miguel Joint Union School District. Since the project would not be growth inducing, it would not result in an increase in school-aged children in the area. The proposed wastewater treatment facility would not have a direct effect on local schools. No impacts would occur.

d. No Impact. Since the project would not be growth inducing, it would not affect use of area parks. No impact would occur.

e. No Impact. No other public facilities would be impacted as a result of the proposed project. Therefore, no impact would occur as a result of the proposed project.

Finding. Based on the impact discussion above, potential impacts to public services would be less than significant; therefore, no mitigation is required.

5.16 RECREATION

5.16.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.16.2 Discussion of Checklist Responses

a. Less Than Significant With Mitigation. The proposed project would not increase the demand for existing neighborhood or regional parks or other recreational facilities beyond the facilities existing in the city. The project site is within the Salinas River Trail Corridor (County of San Luis Obispo, 2016). The proposed project will be constructed on the west side of the project site. With the implementation of mitigation measure REC-1, impacts will be reduced to less than significant.

[Add to this section (if necessary) after site plan is developed]

b. No Impact. The proposed project does not include recreational facilities and would not require the construction or expansion of existing recreational facilities in the project area. No impact would occur.

5.16.3 Mitigation Measures

REC-1: Create a buffer zone between the project impact area and any existing or proposed trail.

5.17 TRANSPORTATION/TRAFFIC

5.17.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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5.17.2 Discussion of Checklist Responses

a. Less Than Significant Impact. The WWTP is accessed by Bonita Place, which is accessed from N River Road. The WWTP entrance is on the corner of Bonita Place and Benedict Street, within a residential neighborhood. A security gate is located at the entrance of the WWTP. The proposed project would not change existing access to the site or alter existing transportation modes (vehicular, multi-modal) used to access the site. Therefore, implementation of the project would not conflict with any applicable transportation or congestion management plans, ordinances, or policies.

The proposed project includes new secondary and tertiary treatment facilities at the existing WWTP, all of which would be constructed within the existing developed footprint of the WWTP and the expansion area. Construction of the proposed project is expected to begin in year [year] and extend [X number of] months to be complete by year [year]. Project construction [is/is not] expected to produce significant vehicle volumes during construction activities. Construction equipment would use River Road and N Street to access Bonita Place. The construction phase would include the export of approximately [X number of] cubic yards of demolished piping material, requiring [X number of] round trips to an approved landfill, and import of approximately [X number of] cubic yards of material, resulting in approximately [X number of] round trips. Therefore, the proposed project is expected to require a total of [X number of] round trips hauling construction materials. *[Although there would be some vehicle traffic associated with hauling heavy equipment and construction materials to the site, this would not occur throughout the duration of the project. – clarify after site and architectural plans are developed]*

Workers commuting to and from the jobsite would be associated with the largest increase in traffic volumes during construction, but this would be limited mainly to morning arrival and evening departures, which would occur only during established daylight working hours, and would not produce a large enough traffic volume to significantly alter existing levels of service (LOS) designations. Impacts are expected to be less than significant.

Operation of the new facilities would require an estimated one additional employee and associated vehicles trip per day. Due to the minimal increase in operational trips, the proposed project is not expected to conflict with applicable plans, ordinances, or policies associated with transportation; therefore, significant traffic impacts would not occur.

b. Less Than Significant Impact. Refer to Impact discussion XVI(a) above. Impacts are expected to be less than significant.

c. No Impact. The project would not affect air traffic due to its location approximately 5.0 miles northeast from the Mc Millan Airport and 7.0 miles northwest from the Paso Robles Municipal

Airport, limited height of structures, and lack of any features that would result in interference. The project site is not located within any Airport Safety Zones. No impacts would occur.

d. No Impact. The project does not propose any design features which would substantially increase traffic hazards. Therefore, impacts are expected to be less than significant.

e. Less Than Significant Impact. The project site is located at the end of a dead-end driveway within a neighborhood. The driveway only serves access to the WWTP. The proposed project would not change existing access to the site. The project would not conflict with emergency access routes during construction or operation of the proposed project. Therefore, impacts are expected to be less than significant.

f. Less Than Significant With Mitigation. The Parks and Recreation Element of the San Luis Obispo County General Plan identifies the proposed Salinas River Trail as a multi-use trail that would run along the Salinas River from Santa Margarita Lake to the Monterey County line. The proposed trail runs directly through the parcels on the existing and proposed WWTP property, as shown in Figure 13.

The proposed project will be constructed on the west side of the project site. With the implementation of REC-1, impacts would be reduced to less than significant.

[Re-address this section after site plan is developed, if necessary]

Finding. *[finding]*

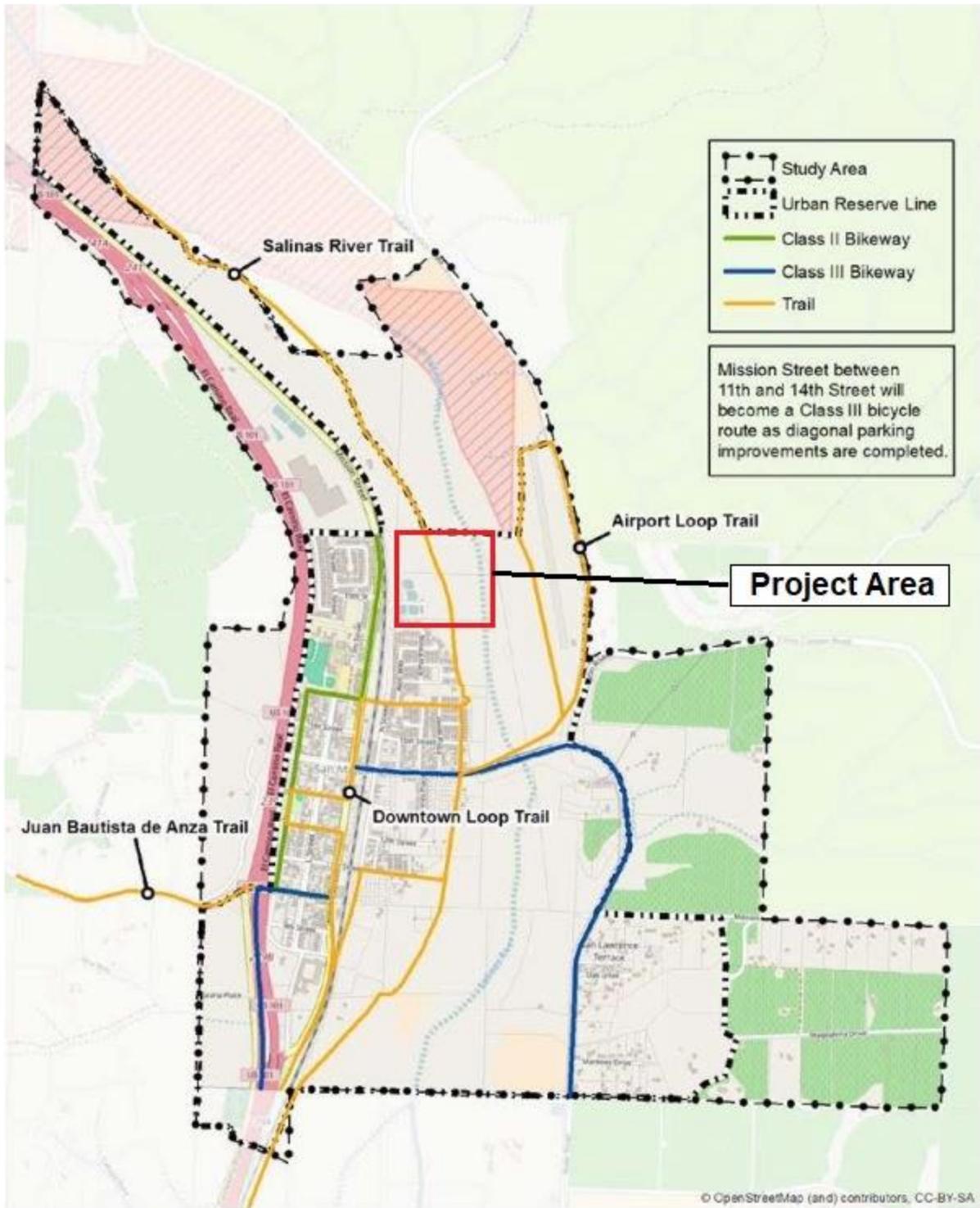


Figure 13. San Miguel proposed trails and bikeways (County of San Luis Obispo, 2016).

5.18 TRIBAL AND CULTURAL RESOURCES

5.18.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVII. TRIBAL AND CULTURAL RESOURCES: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.18.2 Discussion of Checklist Responses

a. No Impact. The site is not listed on the California Register of Historical Resources, or in a local register of historical resources. Therefore, no impact will occur.

b. [Finding].

[To be determined by the lead agency]

Finding. *[finding]*

5.19 UTILITIES AND SERVICE SYSTEMS

5.19.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVIII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.19.2 Discussion of Checklist Responses

a. Less Than Significant Impact. Wastewater from the proposed operations building would be connected to the existing WWTP located on-site. The project components would be designed to meet the requirements of the Regional Water Quality Control Board. Therefore, impacts would be less than significant.

b. [Finding - Less Than Significant Impact?].

[This section will be updated after other sections are finished]

The proposed project involves the construction of new secondary and tertiary treatment facilities at the existing WWTP and on expansion property, as well as ancillary site improvements. The proposed project includes the addition of a membrane bioreactor, UV disinfection, headworks, lift station, and recycled water pumping station. The project would produce tertiary 2.2 quality recycled water for agricultural use or groundwater recharge. This Initial Study includes an analysis of the potential environmental impacts resulting from implementation of the project and mitigation measures have been included to reduce the level of impacts to *[less than significant – update if needed]*.

c. [Finding]. [explanation]

[TBD after site plan and design specifications are developed]

d. Less Than Significant Impact. The project proposes to use *[existing on-site water lines – update if needed]* as its water source for domestic purposes. Based on available information, the proposed water source is not known to have any significant availability or quality problems. The proposed project would not significantly increase water demands beyond current uses. Therefore, impacts would be less than significant.

e. No Impact. The proposed project involves the construction of new secondary and tertiary treatment facilities at the existing WWTP. This impact is not applicable; therefore, no impact would occur.

f. Less Than Significant Impact. Solid waste collection service would continue to be provided by Paso Robles Waste Disposal Company and waste would be disposed at the Paso Robles Landfill, located east of the City of Paso Robles. The landfill has an estimated lifespan through approximately 2034. Operation of the proposed project facilities is not expected to generate new solid waste; therefore, impacts are considered less than significant.

[Capacity to accept solid waste produced in construction – TBD by construction estimates]

g. [Finding]. [explanation]

[TBD after site plan and design specifications are developed]

Finding. [finding]

5.20 MANDATORY FINDINGS OF SIGNIFICANCE

5.20.1 Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIX. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.20.2 Discussion of Checklist Responses

[This section will be completed after the site plan and design specifications have been determined.]

a. [Finding]. [explanation]

b. [Finding]. [explanation]

c. [Finding]. [explanation]

Finding. [*Finding*]

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Custom Soil Resource Report for San Luis Obispo County, California, Paso Robles Area



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:3,130 if printed on A landscape (11" x 8.5") sheet.

0 45 90 180 270 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Luis Obispo County, California, Paso Robles Area
 Survey Area Data: Version 12, Sep 14, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2016—Oct 1, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
147	Hanford and Greenfield soils, 0 to 2 percent slopes	0.4	1.2%
148	Hanford and Greenfield soils, 2 to 9 percent slopes	7.1	18.9%
166	Metz loamy sand, 0 to 5 percent slopes	14.0	37.4%
300	Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	15.9	42.5%
Totals for Area of Interest		37.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Luis Obispo County, California, Paso Robles Area

147—Hanford and Greenfield soils, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hbt0
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 degrees F
Frost-free period: 200 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hanford and similar soils: 40 percent
Greenfield and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanford

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rock sources

Typical profile

H1 - 0 to 25 inches: fine sandy loam
H2 - 25 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: A
Ecological site: COARSE LOAMY BOTTOM (R014XE032CA)
Hydric soil rating: No

Description of Greenfield

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rock sources

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 54 inches: fine sandy loam
H3 - 54 to 60 inches: stratified very gravelly sand to sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: A
Ecological site: COARSE LOAMY BOTTOM (R014XE032CA)
Hydric soil rating: No

Minor Components

Arbuckle, fine sandy loam

Percent of map unit: 15 percent
Hydric soil rating: No

San ysidro, loam

Percent of map unit: 10 percent
Hydric soil rating: No

Cropley, clay

Percent of map unit: 1 percent
Hydric soil rating: No

Metz, loamy sand

Percent of map unit: 1 percent
Hydric soil rating: No

Pico, fine sandy loam

Percent of map unit: 1 percent
Hydric soil rating: No

Rincon, clay loam

Percent of map unit: 1 percent
Hydric soil rating: No

Tujunga, fine sand

Percent of map unit: 1 percent
Hydric soil rating: No

148—Hanford and Greenfield soils, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hbt1
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 degrees F
Frost-free period: 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hanford and similar soils: 40 percent
Greenfield and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanford

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rock sources

Typical profile

H1 - 0 to 25 inches: fine sandy loam
H2 - 25 to 60 inches: fine sandy loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

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Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Ecological site: COARSE LOAMY BOTTOM (R014XE032CA)

Hydric soil rating: No

Description of Greenfield

Setting

Landform: Terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from mixed rock sources

Typical profile

H1 - 0 to 8 inches: fine sandy loam

H2 - 8 to 54 inches: fine sandy loam

H3 - 54 to 60 inches: stratified very gravelly sand to sandy loam

Properties and qualities

Slope: 2 to 9 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Ecological site: COARSE LOAMY BOTTOM (R014XE032CA)

Hydric soil rating: No

Minor Components

Arbuckle, fine sandy loam

Percent of map unit: 15 percent

Hydric soil rating: No

San ysidro, loam

Percent of map unit: 10 percent

Hydric soil rating: No

Cropley, clay

Percent of map unit: 1 percent
Hydric soil rating: No

Metz, loamy sand

Percent of map unit: 1 percent
Hydric soil rating: No

Pico, fine sandy loam

Percent of map unit: 1 percent
Hydric soil rating: No

Rincon, clay loam

Percent of map unit: 1 percent
Hydric soil rating: No

Tujunga, fine sand

Percent of map unit: 1 percent
Hydric soil rating: No

166—Metz loamy sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hbtm
Elevation: 600 to 1,500 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 60 degrees F
Frost-free period: 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Metz and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Metz

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rock sources

Typical profile

H1 - 0 to 9 inches: loamy sand
H2 - 9 to 60 inches: stratified sand to very fine sandy loam

Properties and qualities

Slope: 0 to 5 percent

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Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: SANDY BOTTOM (R014XE033CA)
Hydric soil rating: No

Minor Components

San emigdio, fine sandy loam

Percent of map unit: 5 percent
Hydric soil rating: No

Hanford, fine sandy loam

Percent of map unit: 5 percent
Hydric soil rating: No

Tujunga, fine sand

Percent of map unit: 5 percent
Hydric soil rating: No

Elder, loam

Percent of map unit: 2 percent
Hydric soil rating: No

Xerofluvents

Percent of map unit: 1 percent
Landform: Drainageways
Hydric soil rating: Yes

Pico, fine sandy loam

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, slopes of 5 to 9 percent

Percent of map unit: 1 percent
Hydric soil rating: No

300—Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14

Map Unit Setting

National map unit symbol: 2xm5w

Elevation: 70 to 2,480 feet

Mean annual precipitation: 9 to 24 inches

Mean annual air temperature: 58 to 61 degrees F

Frost-free period: 219 to 346 days

Map Unit Composition

Corducci and similar soils: 50 percent

Typic xerofluvents and similar soils: 30 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Corduucci

Setting

Landform: Flood plains, alluvial fans, stream terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread, talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed alluvium derived from igneous and sedimentary rock

Typical profile

A - 0 to 5 inches: fine sand

C1 - 5 to 35 inches: fine sand

C2 - 35 to 45 inches: sand

C3 - 45 to 59 inches: coarse sand

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.99 to 19.99 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

Hydric soil rating: No

Description of Typic Xerofluvents

Setting

Landform: Stream terraces, flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium derived from igneous and sedimentary rock

Typical profile

A - 0 to 4 inches: sand
C1 - 4 to 31 inches: sand
C2 - 31 to 35 inches: fine sandy loam
C3 - 35 to 59 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 5.99 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Metz, very rarely flooded

Percent of map unit: 5 percent
Landform: Flood plains, stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tujungang, very rarely flooded

Percent of map unit: 5 percent
Landform: Flood plains, stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Xeropsamments, frequently flooded

Percent of map unit: 5 percent
Landform: Drainageways

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Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Microfeatures of landform position: Channels
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Xerofluvents, frequently flooded

Percent of map unit: 5 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Microfeatures of landform position: Channels
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Erosion Factors

Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

K Factor, Whole Soil

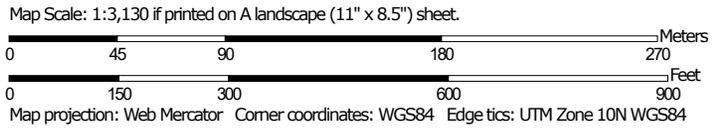
Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Custom Soil Resource Report
Map—K Factor, Whole Soil



Soil Map may not be valid at this scale.



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  .02
-  .05
-  .10
-  .15
-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Soil Rating Lines

-  .02
-  .05
-  .10
-  .15
-  .17
-  .20

-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Soil Rating Points

-  .02
-  .05
-  .10
-  .15
-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Water Features

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Luis Obispo County, California, Paso Robles Area
 Survey Area Data: Version 12, Sep 14, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2016—Oct 1, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
147	Hanford and Greenfield soils, 0 to 2 percent slopes	.24	0.4	1.2%
148	Hanford and Greenfield soils, 2 to 9 percent slopes	.24	7.1	18.9%
166	Metz loamy sand, 0 to 5 percent slopes	.10	14.0	37.4%
300	Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	.15	15.9	42.5%
Totals for Area of Interest			37.5	100.0%

Rating Options—K Factor, Whole Soil

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

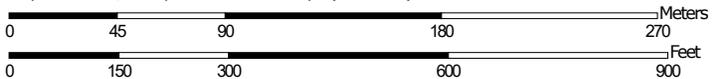
Wind Erodibility Group

A wind erodibility group (WEG) consists of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

Custom Soil Resource Report Map—Wind Erodibility Group



Map Scale: 1:3,130 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

	1
	2
	3
	4
	4L
	5
	6
	7
	8
	Not rated or not available

Soil Rating Lines

	1
	2
	3
	4
	4L
	5
	6
	7
	8
	Not rated or not available

Soil Rating Points

 Not rated or not available

	1
	2
	3
	4
	4L
	5
	6
	7
	8
	Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Luis Obispo County, California, Paso Robles Area
 Survey Area Data: Version 12, Sep 14, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2016—Oct 1, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Wind Erodibility Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
147	Hanford and Greenfield soils, 0 to 2 percent slopes	3	0.4	1.2%
148	Hanford and Greenfield soils, 2 to 9 percent slopes	3	7.1	18.9%
166	Metz loamy sand, 0 to 5 percent slopes	2	14.0	37.4%
300	Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	1	15.9	42.5%
Totals for Area of Interest			37.5	100.0%

Rating Options—Wind Erodibility Group

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified
Tie-break Rule: Lower

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Custom Soil Resource Report

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

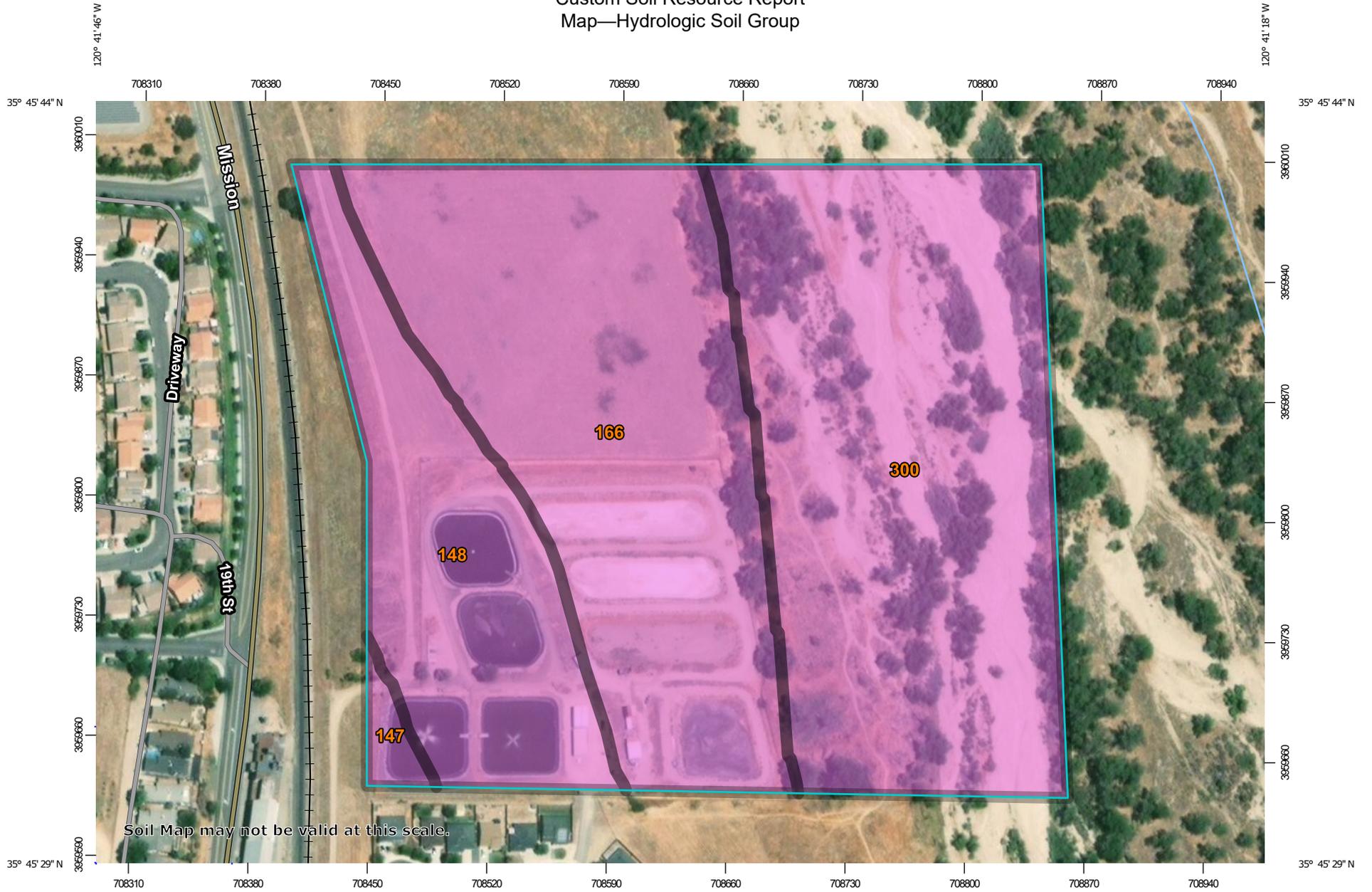
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report Map—Hydrologic Soil Group



Map Scale: 1:3,130 if printed on A landscape (11" x 8.5") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

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The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
147	Hanford and Greenfield soils, 0 to 2 percent slopes	A	0.4	1.2%
148	Hanford and Greenfield soils, 2 to 9 percent slopes	A	7.1	18.9%
166	Metz loamy sand, 0 to 5 percent slopes	A	14.0	37.4%
300	Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	A	15.9	42.5%
Totals for Area of Interest			37.5	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

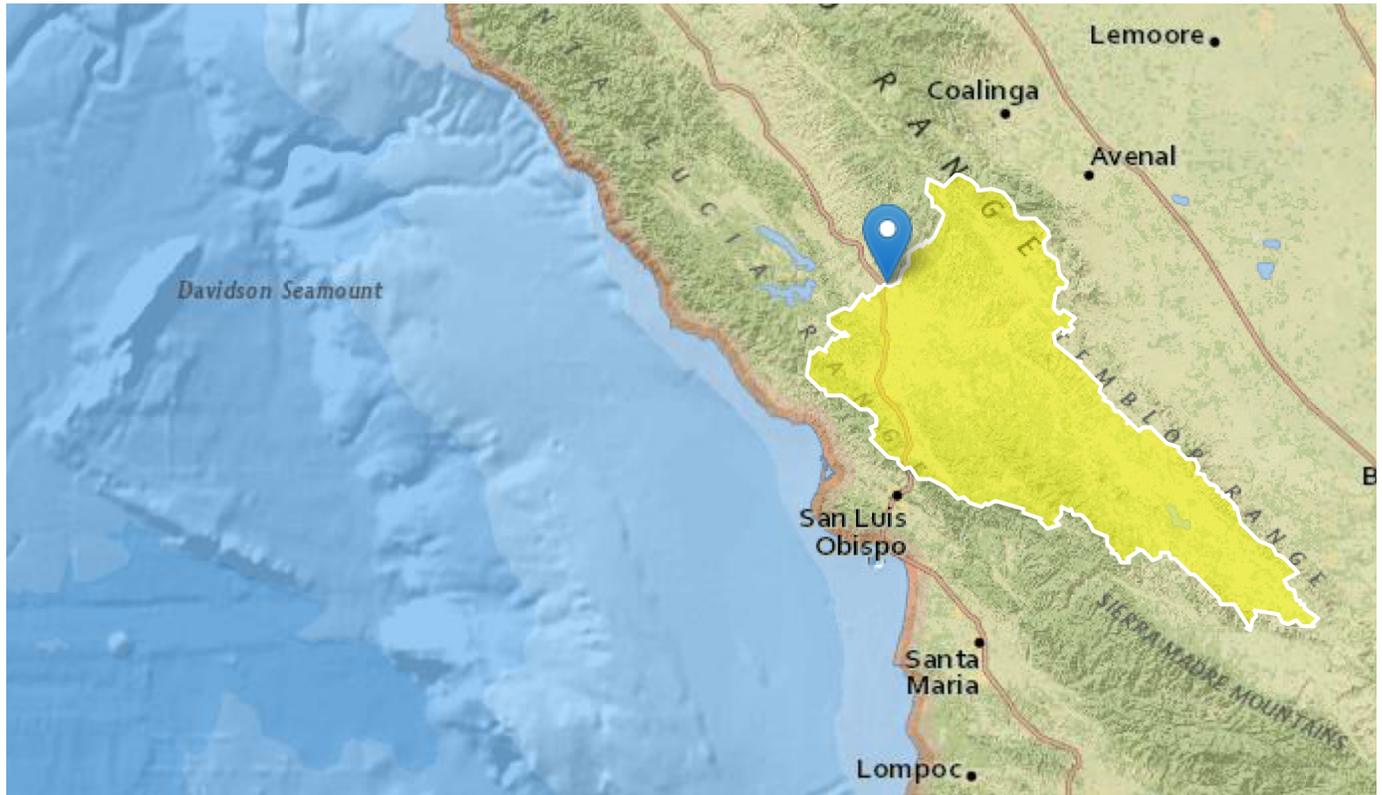
StreamStats Report

Region ID: CA

Workspace ID: CA20190515181431069000

Clicked Point (Latitude, Longitude): 35.76015, -120.68827

Time: 2019-05-15 11:14:48 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1986.1	square miles
PRECIP	Mean Annual Precipitation	16.8	inches

Peak-Flow Statistics Parameters [2012 5113 Region 4 Central Coast]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1986.1	square miles	0.11	4600

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
PRECIP	Mean Annual Precipitation	16.8	inches	7	46

Peak-Flow Statistics Flow Report [2012 5113 Region 4 Central Coast]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	SEp
2 Year Peak Flood	4430	ft ³ /s	662	29600	162
5 Year Peak Flood	16500	ft ³ /s	4190	64800	97
10 Year Peak Flood	30700	ft ³ /s	9510	99000	79.4
25 Year Peak Flood	55900	ft ³ /s	19300	162000	69.9
50 Year Peak Flood	80400	ft ³ /s	29400	220000	66.2
100 Year Peak Flood	107000	ft ³ /s	38900	294000	66.9
200 Year Peak Flood	137000	ft ³ /s	49700	379000	67.6
500 Year Peak Flood	182000	ft ³ /s	61800	539000	71.5

Peak-Flow Statistics Citations

Gotvald, A.J., Barth, N.A., Veilleux, A.G., and Parrett, Charles, 2012, Methods for determining magnitude and frequency of floods in California, based on data through water year 2006: U.S. Geological Survey Scientific Investigations Report 2012-5113, 38 p., 1 pl. (<http://pubs.usgs.gov/sir/2012/5113/>)

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Application Version: 4.3.0

