Central Coast Blue Project

Draft Environmental Impact Report

SCH#2019120560

prepared by

City of Pismo Beach
Planning Division
760 Mattie Road
Pismo Beach, California 93449
Contact: Matthew Downing, AICP, Planning Manager

prepared with the assistance of

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1530 Monterey Street, Suite D
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July 2020

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Appendices

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Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
2001 CAP	2001 Clean Air Plan
AB	Assembly Bill
ADT	average daily traffic
AGMC	Arroyo Grande Municipal Code
APCD	Air Pollution Control District
ATF	advanced treatment facility
avg	average
Basin Plan	Water Quality Control Plan for the Central Coastal Basin
BCE	Before Common Era
BMP	best management practice
BRA	Biological Resources Assessment
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Cal OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCC	California Coastal Commission
CCWA	Central Coast Water Authority
CDFW	California Department of Fish and Wildlife
CE	Common Era
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CH_4	methane
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide

CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CY	cubic yards
dB	decibel
dBA	A-weighted decibel
DNL	Day-Night Average Level
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
ESHA	Environmentally Sensitive Habitat Area
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GBMC	Grover Beach Municipal Code
GHG	greenhouse gas
gpm	gallons per minute
GWh	gigawatt-hours
HCH	hexachlorocyclohexane
hr	hour
HVAC	heating, ventilation, and air conditioning
in/sec	inches per second
IW	injection well
JPA	Joint Powers Authority
LAFCO	Local Agency Formation Commission
lbs	pounds
LCP	Local Coastal Program
L_{eq}	equivalent noise level
L_{max}	maximum instantaneous noise level
LOS	Level of Service
µg/L	micrograms per liter

µg/m^3	micrograms per cubic meter
µm	micrometers
MCV2	*A Manual of California Vegetation, Second Edition*
mg/L	milligrams per liter
mL/L	milliliters per liter
MLD	most likely descendant
MPN/100 mL	Most Probable Number of viable cells in 100 milliliters of sample
MT	metric ton
MW	monitoring well
MWh	megawatt-hour
N_2O	nitrous oxide
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOA	Notice of Availability
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Units
O_3	ozone
OCSD	Oceano Community Services District
PBMC	Pismo Beach Municipal Code
PG&E	Pacific Gas and Electric
PM_{10}	particulate matter measuring no more than 10 microns in diameter
$PM_{2.5}$	particulate matter measuring no more than 2.5 microns in diameter
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code

RCEM	Roadway Construction Emission Model
RCNM	Roadway Construction Noise Model
RMS	root mean squared
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCADA	supervisory control and data acquisition
SLOAPCD	San Luis Obispo County Air Pollution Control District
SLOCC	Snag Luis Obispo County Code
SLOCOG	San Luis Obispo Council of Governments
SLOFC&WCD	San Luis Obispo County Flood Control and Water Conservation District
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SR	State Route
SSC	Species of Special Concern
SSLOCSD	South San Luis Obispo County Sanitation District
SWP	State Water Project
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMP	Transportation Management Plan
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife
VdB	vibration decibels
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
WDR	waste discharge requirement
WQO	water quality objective
WWTP	Wastewater Treatment Plant
XPI	Extended Phase I

Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the environmental effects of the proposed Central Coast Blue (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

Project Synopsis

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Project Sponsors

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Public Works Department
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South San Luis Obispo County Sanitation District
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Project Description

This EIR has been prepared to examine the potential environmental effects of the Central Coast Blue project. The following is a summary of the full project description, which can be found in Section 2, *Project Description*.

Project Location

The project area is in the city of Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano, which is a census-designated place. The project area extends from West Grand Avenue in Grover Beach in the north to unincorporated San Luis Obispo County, including Oceano, in the south. The total project area measures approximately 3.5 miles north to south to allow for appropriate spacing of the proposed injection wells. All of the project components would be located within one mile of the coast with the exception of the existing production wells that would be used for the proposed project, the one new production well likely to be located in Grover Beach, and the agricultural irrigation pipelines and associated irrigated lands. Project components would be sited at a variety of locations, including the Coastal Dunes RV Park and Campground in Oceano, the South San Luis Obispo County Sanitation District (SSLOCSD) Wastewater Treatment Plant (WWTP) property in Oceano, an approximately 1.5-acre industrial lot at 980 Huber Street in Grover Beach (Assessor's Parcel Number 060-543-016), an undeveloped

residential lot in Grover Beach (Assessor's Parcel Number 060-193-022), a stormwater detention basin in Grover Beach (Assessor's Parcel Number 060-591-018), the Oceano Depot parking lot in Oceano, the Oceano County Airport, and public rights-of-way of paved roadways.

Project Characteristics

The proposed project is a regional advanced purified water project intended to enhance supply reliability by reducing the Santa Maria Groundwater Basin's (SMGB) vulnerability to drought and seawater intrusion. The project is a multi-agency collaboration between the City of Pismo Beach (City), the SSLOCSD and the other Northern Cities Management Area (NCMA) agencies, including the Cities of Grover Beach and Arroyo Grande and the Oceano Community Services District (OCSD). The proposed project consists of an advanced treatment facility (ATF) complex (including an equalization basin, an advanced purified water storage tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, one new production well, and potential agricultural irrigation pipelines. The project would also involve recharge of the SMGB with advanced purified water via injection wells installed at various locations in the SMGB. Water for the project would be sourced from two of the region's wastewater treatment facilities, the Pismo Beach Wastewater Treatment Plant (WWTP) and the SSLOCSD WWTP. The project would alter the pumping regime of existing, operational production wells in the project area and would include construction of one new production well to optimize groundwater production in the area.

INJECTION WELLS AND MONITORING WELLS

Seven injection wells would be installed generally within one-half mile of the coast and would each require approximately 3,000 square feet of land.[1] Each injection well would be capable of injecting approximately 800 acre-feet per year. The advanced purified water would be injected at a depth of approximately 200 to 600 feet below ground surface. The injection well network would be accompanied by a network of nested monitoring wells at ten locations throughout the project area. Nested monitoring wells would each include two to three well casings that would extend to varying depths up to 400 feet. Each monitoring well would have a surface footprint of approximately 25 square feet and would be equipped to measure and monitor water level and water quality. Injection wells would include aboveground piping and infrastructure such as electrical panels, control panels, and storage facilities that would be approximately six feet in height. Maintenance of the injection wells would involve monitoring of pressures, frequent inspections, cleaning out the well casings, and removing microbial build-up once every two years.

WATER DISTRIBUTION PIPELINES

Water distribution pipelines would be installed primarily in public rights-of-way and in Oceano County Airport. These pipelines would accomplish four purposes: 1) convey secondary treated effluent from the Pismo Beach WWTP from the existing WWTP discharge pipeline to the proposed ATF; 2) convey secondary treated effluent from the SSLOCSD WWTP to the proposed ATF; 3) convey advanced purified water from the proposed ATF to the injection wells; and 4) convey concentrate from the proposed ATF to the existing WWTP discharge pipeline. Construction methods for the proposed pipelines would predominantly involve open trenching, with augur boring or horizontal directional drilling methods used as needed.

[1] This is a conservative assumption of the footprint of each injection well.

ADVANCED TREATMENT FACILITY COMPLEX

The ATF complex would treat secondary treated wastewater flows from the Pismo Beach and SSLOCSD WWTPs via microfiltration/ultrafiltration, reverse osmosis, and ultraviolet disinfection/advanced oxidation treatment processes and discharge to the ocean through the existing WWTP discharge pipeline. The proposed ATF would produce a clean water stream (permeate) and a wastewater stream (concentrate). The reverse osmosis component of the ATF would produce a percentage of concentrate water, which contains a higher concentration of the dissolved particles than were in the source water and would be discharged to the Pacific Ocean outfall that currently receives all flows from the Pismo Beach and SSLOCSD WWTPs under the City's and SSLOCSD's existing National Pollutant Discharge Elimination System permits. No physical modifications to the current ocean outfall would be required. The ATF would be accompanied by an approximately 7,500-square foot equalization basin to address fluctuations in flow from the WWTPs, an approximately 538,632-gallon advanced purified water storage tank to be located underground, and a pump station, all of which would be located on the same property as the ATF as part of the ATF complex. The storage tank would be located below ground, and the pump station would be located above the storage tank.

PRODUCTION WELLS

Several existing production wells would be available for extraction of the injected advanced purified water. The project would involve increased pumping at these wells but would not involve modification of these existing production wells or any associated ground disturbance. In 2018, the NCMA agencies pumped approximately 764 acre-feet from the SMGB, which was approximately 18 percent of their total allocation for urban groundwater uses of 4,330 acre-feet per year (NCMA 2018). Under Phase I, the NCMA agencies would potentially increase groundwater pumping up to approximately 2,500 AFY, which would be a net increase of approximately 1,736 AFY over existing conditions. Under Phase II of the proposed project, the NCMA agencies would potentially increase groundwater pumping up to their full allocation for urban uses of 4,330 acre-feet per year, which would be a net increase of approximately 3,566 acre-feet per year over existing conditions. While the project would lead to increased groundwater pumping over recent rates, groundwater pumping will still be below historical (i.e., 2009) levels.

One new production well would be constructed to optimize the system, but the precise location of that new well has not been determined at this time. The new production well likely would be located in Grover Beach, likely on land leased or acquired by the City, and would require approximately 3,000 square feet of land.[2] The characteristics of the new production well, which would be approximately 14 inches in diameter and 300 to 600 feet in depth, would be similar to those of the City's existing production wells. The new production well would include aboveground components typical of production wells, including piping, control systems, a sunshade, storage facilities, a pump and motor, and security fencing/walls. The well pump would be submersible and would therefore not generate substantial noise.

AGRICULTURAL IRRIGATION

A portion of the water from the ATF may be used for agricultural irrigation. Potential agricultural irrigation areas include agricultural lands located generally south of Oceano. If agricultural irrigation is included in the proposed project, additional distribution pipelines would be constructed to carry

[2] This is a conservative assumption of the footprint of the production well.

recycled water from the ATF complex to the irrigated lands. Secondary effluent treated for use in agricultural irrigation would only go through microfiltration/ultrafiltration treatment and would not pass through the reverse osmosis or ultraviolet disinfection/advanced oxidation processes.

CONSTRUCTION ACTIVITIES

Project construction would occur in two main phases. Phase I would include construction of five injection wells (IW-1, IW-2A, IW-3, IW-4, and IW-5A), the water distribution pipelines, and the ATF complex with its initial production capacity (1.0 million gallons per day of produced water) designed to treat flows from the Pismo Beach WWTP. Phase II would include construction of the remaining two injection wells (IW-2B and IW-5B), installation of approximately 40 feet of additional water distribution pipelines to connect these injection wells to the water distribution pipelines constructed under Phase I, construction of the agricultural irrigation pipelines, and expansion upgrades to the ATF complex to achieve its final production capacity (3.9 mgd of produced water) designed to treat flows from both the Pismo Beach and SSLOCSD WWTPs. It is unknown at this time whether the new production well would be constructed under Phase I or II. Construction of the project components with known locations is anticipated to last approximately 24 months. During the construction period, portions of the project area, such as select areas of the Coastal Dunes RV Park and Campground and parts of public roadway rights-of-way, would be closed to public access.

OPERATION AND MAINTENANCE

The proposed project would require approximately 15 employees, including operators, electricians, mechanics, and administrative staff, that would work at the ATF complex. Operation and maintenance of the injection, monitoring, and production wells would require weekly visits for inspections, monitoring of pressures, cleaning out well casings, removing microbial build-up, and backflushing. Operation and maintenance of the pipelines would require inspections of pipeline and exercising valves every six months. Chemical deliveries to the ATF complex would occur approximately eight times per month.

Construction of IW-2A, IW-2B, IW-3, and IW-4 could preclude use of up to two campsites per injection well in the Coastal Dunes RV Park and Campground. To compensate for this impact, the City would negotiate a cost agreement with the County of San Luis Obispo Parks and Recreation Department to offset lost revenue from these campsites.

Project Objectives

The objectives for the proposed Central Coast Blue project are as follows:

1. Produce advanced purified water of a quality that can safely be used to augment groundwater supply while maintaining or improving existing groundwater quality
2. Create a sustainable, drought-resistant, local water supply and improve water supply reliability for southern San Luis Obispo County
3. Provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion
4. Reduce wastewater discharges to the ocean and maximize utilization of local water supplies
5. Facilitate continued water resources collaboration in the NCMA

Areas of Known Controversy

The EIR scoping process identified one area of known controversy for the proposed project related to whether there is evidence of ongoing or potential seawater intrusion in the NCMA portion of the SMGB. Detailed information regarding this topic can be found in the 2019 *Northern Cities Management Area 2019 Annual Monitoring Report* prepared by GSI Water Solutions, Inc., available at: https://sgma.water.ca.gov/adjudbasins/report/preview/171. However, the purpose of this EIR is not to evaluate the necessity or merits of the project but rather to analyze the physical impacts of the project on the environment as proposed. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR scoping meetings held by the City are summarized in Section 1, *Introduction*.

Issues Not Studied in Detail in the EIR

Section 4.12, *Effects Found Not to Be Significant*, summarizes issues from the environmental checklist that were not studied in detail in the EIR because there is no substantial evidence that significant impacts would occur. These issues consist of Aesthetics, Agricultural Resources, Geology/Soils, Mineral Resources, Population/Housing, Public Services, Recreation, Utilities/Service Systems, and Wildfire.

Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per CEQA Guidelines Section 15093.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under CEQA Guidelines Section 15091.
- **Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure(s)	Residual Impact
Air Quality		
Impact AQ-1 The project would not conflict with or obstruct implementation of the 2001 CAP. No impact would occur.	No mitigation required.	No Impact
Impact AQ-2. Construction of the project would generate temporary increases in criteria air pollutant emissions. Construction emissions of ROG + NO_x would exceed SLOAPCD construction thresholds during Phase I and Phase II, and implementation of mitigation measures AQ-2(a) through AQ-2(b) would be required. Impacts would be less than significant with mitigation incorporated.	**AQ-2(a) Standard Control Measures for Construction Equipment.** The following standard mitigation measures shall be implemented during Phases I and II of construction activities to reduce construction-related emissions of NO_X and ROG: ▪ Maintain all construction equipment in proper tune according to manufacturer's specifications; ▪ Fuel all off-road and portable diesel-powered equipment with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road); ▪ Use diesel construction equipment meeting the CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation; ▪ Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation; ▪ 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 (e.g., captive or NO_X exempt area fleets) may be eligible by proving alternative compliance; ▪ All on- and off-road diesel equipment shall not idle for more than five minutes in accordance with California Code of Regulations Title 13, Section 2485 and Section 2449(d)(3) of the CARB's In-Use Off-Road Diesel Regulation. Signs shall be posted in the designated queuing areas and on job sites to remind drivers and operators of the five-minute idling limit; ▪ Electric-powered equipment shall be used when feasible; ▪ Gasoline-powered equipment shall be substituted in place of diesel-powered equipment, where feasible; and ▪ Alternatively-fueled construction equipment shall be used on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel. **AQ-2(b) Best Available Control Technology for Construction Equipment.** The following Best Available Control Technology for diesel-fueled construction equipment shall be implemented during Phases I and II of construction activities to reduce construction-related emissions of NO_X and ROG: ▪ Tractors, loaders, backhoes, and forklifts used for construction of the wells ▪ All equipment used during the building construction phase of the ATF complex shall be equipped with	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	minimum Tier 3 certified engines, and air compressors, drill rigs, and generators used during injection/monitoring/production well construction shall be equipped with minimum Tier 4 Final certified engines; ▪ Repower older off-road equipment with Tier 3 and Tier 4 engines where feasible; ▪ Utilize heavy-duty trucks meeting the standards of the CARB's Truck and Bus Regulation for on-road heavy-duty diesel engines, which requires nearly all trucks to have 2010 or newer model year engines; and ▪ Install California Verified Diesel Emission Control Strategies on construction equipment. Examples include, but are not limited to, diesel particulate filter systems, Purifilter Engine Control Systems, diesel retrofit systems, and Sootfilter systems.	
Impact AQ-3. Operation of the project would generate temporary increases in criteria air pollutant emissions. However, air pollutant emissions would not exceed SLOAPCD operational thresholds. Impacts would be less than significant.	No mitigation required.	Less than significant
Impact AQ-4. Project construction and operation would generate emissions of criteria air pollutants. However, the project area is designated attainment for all NAAQS. Therefore, the proposed project would not exceed an applicable *de minimis threshold*, and general conformity requirements do not apply. The proposed project is exempt form a conformity determination, and no impact would occur.	No mitigation required.	No impact
Impact AQ-5. Project construction and operation would not expose sensitive receptors to substantial concentrations of TACs, naturally-occurring asbestos, or odors. Impacts would be less than significant	No mitigation required.	Less than significant
Cumulative Impacts. The project would not conflict with or obstruct implementation of the 2001 CAP but would exceed SLOAPCD daily and quarterly thresholds for emissions of ROG + NO_X during Phase I of construction activities. With mitigation incorporated, the project would not have a cumulatively considerable contribution to the cumulative air quality impact.	Mitigation Measures AQ-2(a) and AQ-2(b)	Not cumulatively considerable

Impact	Mitigation Measure(s)	Residual Impact
Biological Resources		
Impact BIO-1. The proposed project would result in direct and indirect impacts to special status species, if present. Following implementation of Mitigation Measures BIO-1(a) through BIO-1(k), impacts would be less than significant with mitigation incorporated.	**BIO-1(a) California Red-legged Frog Habitat Avoidance.** Injection well, monitoring well and water distribution pipeline locations and associated construction work areas (including staging, access, and laydown) shall be sited outside of native vegetation communities, such as arroyo willow riparian. Prior to construction, the limits of construction shall be clearly demarcated by bright orange fencing. Areas outside of the limits of construction shall be considered environmentally sensitive, and access and construction shall be restricted. **BIO-1(b) California Red-legged Frog Avoidance and Minimization Measures.** The following avoidance and minimization measures shall be implemented during project construction and maintenance activities requiring ground disturbance at the IW-5A, IW-5B, and MW 5A/5B/5C locations and water distribution pipeline locations within 50 feet of Arroyo Grande Creek: ▪ A qualified biologist shall survey the project site no more than 48 hours before the start of construction and ground-disturbing maintenance activities, including but not limited to grading, excavation, and trenching. If a CRLF is found within the project footprint, no work shall begin, and consultation with the USFWS shall be initiated. Work shall not begin until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take Permit issued by the USFWS for the project are successfully implemented. ▪ For construction activities occurring during the wet season (October 15 and April 15), daily surveys shall be conducted by a qualified biologist prior to the start of construction activities. If a CRLF is found within the project footprint, work shall halt, and consultation with the USFWS shall be initiated. Work shall not re-commence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take Permit issued by the USFWS for the project are successfully implemented. ▪ Before any construction or ground-disturbing maintenance activities begin, a biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of CRLF and its habitat, the specific measures that are being implemented to avoid dispersing CRLF, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. ▪ All vehicles and equipment shall be in good working condition and free of leaks. A spill prevention plan shall be established in the event of a leak or spill. ▪ Work shall be restricted to daylight hours to the extent feasible. If construction activities occur at night, a biological monitor shall be present. If a CRLF is found	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	within the project footprint during active construction, all work shall stop, and the USFWS shall be notified. Work shall not recommence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion and Incidental Take Statement or other authorization issued by the USFWS for the project are successfully implemented. ▪ Water shall not be impounded in a manner that may attract CRLF. ▪ All excavations or trenches shall be covered when not actively under construction or shall contain earthen ramps sufficient for CRLF to escape to avoid entrapment of CRLF or other wildlife species. ▪ Herbicides shall not be used on site during construction. ▪ No pets shall be permitted on site. ▪ A biological monitor shall be present during all initial ground-disturbing activities for construction and maintenance activities, including but not limited to grading, excavation, and trenching. If a CRLF is found within the project footprint during active construction, all work shall stop, and the USFWS shall be notified. Work shall not recommence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion and Incidental Take Statement or other authorization issued by the USFWS for the project are successfully implemented. ▪ All construction and ground-disturbing maintenance activities (e.g., grading, excavation, and trenching) conducted at injection well, monitoring well, and water distribution pipeline locations within 50 feet of Arroyo Grande Creek shall be conducted during dry conditions (i.e., days with less than 0.1 inch of predicted rainfall), outside of the wet season (October 15 through April 30), unless authorization is provided by the USFWS or a Biological Opinion/Incidental Take Statement issued by the USFWS for the project authorizes work during such conditions. **BIO-1(c) Southwestern Pond Turtle Avoidance and Minimization Measures.** The following avoidance and minimization measures shall be implemented during project construction and maintenance activities requiring ground disturbance at the IW-5A, IW-5B, and MW 5A/5B/5C locations and water distribution pipeline locations within 50 feet of Arroyo Grande Creek: ▪ A qualified biologist shall conduct a visual survey of work areas within 50 feet of Arroyo Grande Creek within 48 hours of initial ground-disturbing activities, including but not limited to grading, excavation, and trenching, associated with construction of injection wells. The survey area shall include the proposed disturbance area plus a 100-foot buffer. Prior to the survey, suitable receptor sites shall be identified within Arroyo Grande Creek. A biologist authorized to relocate turtles shall be present for activities that require the removal of riparian habitat to monitor for turtles. If a turtle is observed in the work area, the biologist shall relocate it out of the	

Impact	Mitigation Measure(s)	Residual Impact
	work area to the respective receptor site. ▪ For the duration of project construction activities at the IW-5A, IW-5B, and MW 5A/5B/5C locations and water distribution pipeline locations within 50 feet of Arroyo Grande Creek, daily surveys shall be conducted by a qualified biologist prior to the start of construction activities. If a turtle is observed in the work area, a biologist authorized to relocate turtles shall relocate it out of the work area to the respective receptor site. ▪ All excavations or trenches shall be covered when not actively under construction or shall contain earthen ramps sufficient for southwestern pond turtle to escape to avoid entrapment of southwestern pond turtle or other wildlife species. ▪ In the event that a southwestern pond turtle egg clutch is discovered during pre-construction surveys, the location shall be surrounded with high visibility fencing under the guidance of a qualified biologist. The nest shall be avoided by construction activities until a qualified biologist determines that the clutch has hatched. The CDFW shall also be contacted to provide additional guidance in the event that a southwestern pond turtle nest is discovered. If, during construction, a southwestern pond turtle nest is discovered, construction shall cease immediately upon the discovery, and CDFW shall be notified. ▪ To the extent feasible, construction activities shall be scheduled outside of the typical nesting season for southwestern pond turtle, which is April through August (Stebbins 2003). **BIO-1(d) Monarch Butterfly Avoidance.** The ATF complex and associated construction work areas shall be sited outside of monarch butterfly overwintering habitat. Prior to construction and during the overwintering period for monarchs in the region (i.e., October through February), a survey shall be conducted at the eucalyptus grove adjacent to the ATF complex to determine if monarch butterflies are utilizing the habitat for overwintering. If monarch butterflies are confirmed to overwinter within the eucalyptus grove, the grove shall be considered ESHA ,and design of the ATF complex shall be modified to incorporate the appropriate setbacks included in the City of Grover Beach LCP and GBMC. The limits of construction shall be clearly demarcated by bright orange fencing in order to avoid work within designated setback areas. Areas outside of the limits of construction shall be considered environmentally sensitive, and access and construction shall be restricted. If butterflies are present, all construction adjacent to overwintering habitat shall be conducted outside the overwintering season (i.e., October to February), if feasible. However, if construction must occur during this time period, construction may only commence if a City-approved monarch butterfly expert determines that the construction activities would not adversely impact foraging, roosting, or other behaviors of the species.	

Impact	Mitigation Measure(s)	Residual Impact
	BIO-1(e) Nesting Bird Avoidance and Minimization Measures. The following avoidance and minimization measures shall be implemented during project construction activities: ▪ Initial site disturbance shall occur outside the general avian nesting season (February 1 through August 31), if feasible. ▪ If initial site disturbance occurs in a work area within the general avian nesting season indicated above, a qualified biologist shall conduct a preconstruction nesting bird survey no more than 14 days prior to initial disturbances in the work area. The survey shall include the entire area of disturbance area plus a 50-foot buffer (relevant to non-raptor species) and 300-foot buffer (relevant to raptors) around the site. If active nests are located, all construction work should be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer should be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required and/or smaller buffers may be established depending upon the species, status of the nest, and construction activities occurring in the vicinity of the nest. The buffer area(s) should be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist should confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. If a white-tailed kite nest is detected during the nesting bird survey no work shall begin until the CDFW is consulted to confirm that implementation of the project and avoidance buffers are sufficient to avoid "take". ▪ If construction activities in a given work area cease for more than 14 days, additional surveys shall be conducted for the work area. If active nests are located, the aforementioned buffer zone measures shall be implemented. **BIO-1(f) Biological Resources Assessment.** Once locations are determined for the project components with unknown locations (i.e., new production well and agricultural irrigation pipelines), a qualified biologist shall conduct a biological resources assessment (BRA) or similar type of study to document the existing biological resources within the project footprint of these components plus a buffer and to determine the potential impacts to those resources. The BRA shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement, sensitive plant communities/critical habitat, potentially jurisdictional features, and other resources judged to be sensitive by local, state, and/or federal agencies. Pending the results of the BRA, design alterations, further technical studies (i.e. protocol surveys) and/or consultations with the USFWS, CDFW and/or other local, state, and federal agencies may be required. Mitigation Measures BIO-1(g) through BIO-1(k) shall be incorporated, only as applicable, into the BRA for	

Impact	Mitigation Measure(s)	Residual Impact
	projects where specific resources are present or may be present and impacted by the project. Note that specific surveys described in the mitigation measures below may be completed as part of the BRA where suitable habitat is present. **BIO-1(g) Special Status Plant Species Surveys.** If completion of the project-specific BRA (Mitigation Measure BIO-1[f]) determines that special status plant species may occur on site, surveys for special status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific BRA. All plant surveys shall be conducted by a qualified biologist approved by the City 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 local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the City for review and approval. **BIO-1(h) Special Status Plant Species Avoidance, Minimization, and Mitigation.** If federally listed, State listed or California Rare Plant Rank 1B species are found during special status plant surveys (pursuant to Mitigation Measure BIO-1[f]), 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 shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm. If avoidance of state listed or federally listed plants species is not feasible, impacts shall be fully offset through implementation of a restoration plan that results in no net loss (see Mitigation Measure BIO-1(i]). Prior to the start of construction and maintenance activities that result in impacts to listed plants, consultation with CDFW and/or USFWS and acquisition of any required permits and/or authorizations shall also be completed. **BIO-1(i) Restoration Plan for Special Status Plant Species**. If avoidance of state listed, federally listed, and/or non-listed CRPR 1B.1 species is not feasible, 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 as a component of habitat restoration. 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	

Impact	Mitigation Measure(s)	Residual Impact
	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 [including species to be used, container sizes, seeding rates, etc.]) ▪ Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule) ▪ Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year, along with performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, and annual monitoring reports for a minimum of five years at which time the City shall demonstrate that performance standards/success criteria have been met ▪ Success criteria shall be, at a minimum, at least 80 percent survival of container plants and 70 percent absolute cover by vegetation type. Absolute cover will be determined in comparison to a reference plot for native species ▪ An adaptive management program and remedial measures to address any shortcomings in meeting success criteria ▪ Notification of completion of compensatory mitigation ▪ Contingency measures (e.g., initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism) **BIO-1(j) Endangered/Threatened Species Avoidance and Minimization.** The habitat requirements of endangered and threatened species that have the potential to occur are variable throughout the project area where project components with unknown locations may be sited. However, several avoidance and minimization measures can be applied for a variety of species to reduce the potential for impacts such that no net loss of the species occurs. The following measures shall be applied to aquatic and/or terrestrial species, as determined to be appropriate by the BRA prepared under Mitigation Measure BIO-1(f): ▪ Ground disturbance shall be limited to the minimum necessary to complete project construction and maintenance. 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 ground-disturbing construction and maintenance activities (e.g., grading, excavation, and trenching) occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed	

Impact	Mitigation Measure(s)	Residual Impact
	between April 1 and October 31, if feasible, to avoid impacts to sensitive aquatic species. ▪ All project activities occurring within or adjacent to sensitive habitats that may support federal- and/or State-listed endangered/threatened species shall have a City-approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, the biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, once initial ground disturbing/vegetation clearing activities are completed the biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are being fully implemented. ▪ No endangered/threatened species shall be captured and relocated without express permission from the CDFW and/or USFWS. ▪ If at any time during construction or maintenance of the project an endangered/threatened species enters the construction or maintenance site(s) or otherwise may be impacted by the project, all project activities shall cease. A City-approved biologist shall document the occurrence and the City shall notify 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. ▪ No equipment shall be permitted to enter wetted portions of any affected drainage channel, unless authorized by the USACE, RWQCB, and CDFW through issuance of permits authorizing such activities. ▪ All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas, and extra spill containment and clean up materials shall be located in close proximity for easy access. ▪ If construction or maintenance activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline and to monitor during construction for comparison to the baseline. ▪ If water is to be diverted around work sites, a diversion plan shall be prepared for review and approval by the City prior to the start of any construction or maintenance activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system. It should be noted that diversion and dewatering of creeks, rivers, lakes and ponds may require permits to be issued by the CDFW, RWQCB,	

Impact	Mitigation Measure(s)	Residual Impact
	USFWS and/or NMFS. ▪ At the end of each workday, 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. ▪ The City-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly. ▪ If any federally and/or State protected species are harmed, the City-approved biologist shall document the circumstances that led to harm and shall determine if project construction should cease or be altered in an effort to avoid additional harm to these species. Dead or injured special status species shall be disposed of at the discretion of the CDFW and USFWS. All incidences of harm shall be reported by the City to the CDFW and USFWS within 48 hours. **BIO-1(k) Non-listed Special Status Animal Species Avoidance and Minimization.** Several State Species of Special Concern may be impacted by project components with unknown locations. The ecological requirements and potential for impacts is highly variable among these species. Depending on the species identified in the BRA [Mitigation Measure BIO-1(f)], several of the measures identified under Mitigation Measure BIO-1(j) shall be applicable to the project. In addition, measures shall be selected from among the following to reduce the potential for impacts to non-listed special status animal species, as determined to be appropriate by the BRA prepared under Mitigation Measure BIO-1(f): ▪ Pre-construction clearance surveys shall be conducted within 14 days prior to the start of construction (including staging and mobilization) in a work area. The surveys shall cover the entire disturbance footprint of the work area 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. A report of the pre-construction survey shall be submitted to the local jurisdiction for their review and approval prior to the start of construction. If construction activities in a given work area cease for more than 14 days, additional surveys shall be conducted for the work area, and additional reports of special status animal species shall be prepared. ▪ A qualified biologist shall be present during all initial ground disturbing activities, including vegetation removal, to recover non-listed special status animal species unearthed by construction activities. ▪ If special status bat species may be present and impacted by the project, a qualified biologist shall conduct presence/absence surveys for special status	

Impact	Mitigation Measure(s)	Residual Impact
	bats where suitable roosting habitat is present within 30 days prior to the start of construction. Surveys shall be conducted using acoustic detectors and by visually searching suitable roost trees 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 coordination 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. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately.	
Impact BIO-2. The project would result in direct and indirect impacts to riparian areas. Implementation of Mitigation Measure BIO-2 would be required. Impact would be less than significant with mitigation incorporated.	**BIO-2 Sensitive Plant Community and Environmentally Sensitive Habitat Area Avoidance and Minimization Measures.** The following avoidance and minimization measures shall be implemented during project construction and maintenance activities requiring vegetation disturbance within arroyo willow habitat. ▪ Temporary impact areas to arroyo willow habitat shall be restored at a one to one (1:1) ratio (one acre of restoration for each acre of impact) to offset temporary losses in wetland, stream, or riparian function. Permanent impacts shall be offset through creation, restoration, and/or enhancement of in-kind habitats at a minimum ratio of 2:1 to mitigate unavoidable permanent impacts to arroyo willow habitat. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared by a biologist familiar with restoration and mitigation techniques. The plan shall include, but not be limited to 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 of the compensatory mitigation site); ▫ Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including plant species to be used, container sizes, seeding rates, etc.]); ▫ Maintenance activities during the monitoring period,	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	including weed removal and irrigation as appropriate (activities, responsible parties, schedule); ▫ Monitoring plan for the compensatory mitigation site, including no less than five years of monitoring with 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 negative impacts to restoration efforts; ▫ Notification of completion of compensatory mitigation and agency confirmation; and ▫ Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism). ▪ During construction, the project shall make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on site should be used for fill material. If the use of imported fill material is necessary, the imported material shall be obtained from a source that is known to be free of invasive plant species. ▪ All equipment and vehicles must be free of weed seeds/propagules before accessing and leaving the work areas.	
Impact BIO-3. The project would potentially impact state and federally protected wetlands through direct removal, filling, or hydrological interruption. Implementation of Mitigation Measures BIO-3(a) through BIO-3(c) would be required. Impacts would be less than significant with mitigation incorporated.	**BIO-3(a) Jurisdictional Delineation.** Prior to final determination of the water distribution pipeline locations and associated construction work areas within the Oceano County Airport property, a qualified biologist shall complete a jurisdictional delineation of the project site to aid in the siting of the water distribution pipeline alignments as well as other project areas. The jurisdictional delineation shall determine the extent of the jurisdiction(s) for local agencies (i.e., the City of Grover Beach and County of San Luis Obispo), CDFW, USACE, and/or RWQCB and shall be conducted in accordance with the requirements set forth by each agency. **BIO-3(b) Drainages and Wetlands Impact Mitigation.** Impacts to drainages and wetlands identified by the Jurisdictional Delineation (Mitigation Measure 3[a]) shall be mitigated at a minimum of 1:1 (acre impacted: acre restored/created). Restoration on the project site is preferable. However, the City may approve off-site restoration at a location in the same watershed as where the project impacts occur that results in equal compensatory value. An HMMP shall be prepared which identifies the approach for implementing the compensatory mitigation. The HMMP shall be prepared by a qualified biologist/restoration ecologist and shall outline the compensatory mitigation. As part of the HMMP, a final	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	mitigation implementation plan shall be submitted to and approved by the City prior to project implementation. Specifically, the HMMP shall include the following: ▪ 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 of the compensatory mitigation site); ▪ Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including plant species to be used, container sizes, seeding rates, etc.]); ▪ Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule); ▪ Monitoring plan for the compensatory mitigation site, including no less than five years of monitoring with 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 negative impacts to restoration efforts; ▪ Notification of completion of compensatory mitigation and agency confirmation; and ▪ Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism). **BIO-3(c) Drainages and Wetlands Best Management Practices During Construction.** For all project components the following best management practices shall be required for permitted grading and construction within drainages or wetlands. In addition, the measures shall be required at locations where construction occurs within 100 feet from drainages or wetlands. ▪ Access routes, staging, and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other federal and State waters, including locating access routes and ancillary construction areas outside of jurisdictional areas. ▪ To control erosion and sediment runoff during and after	

Impact	Mitigation Measure(s)	Residual Impact
	project implementation, appropriate erosion control materials shall be deployed, including but not limited to straw wattles, and maintained in the vicinity of the project footprint. ▪ Project activities within the drainages or wetlands shall occur during the dry season in any given year to the extent practicable. The dry season is typically between May 1 and September 30; however, this timeframe may be extended depending on year-to-year precipitation and drought conditions. ▪ During construction, no litter or construction debris shall be placed within drainages or wetlands. 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 daily 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 drainages or wetlands. ▪ All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from drainages and wetlands 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). 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. ▪ If installation of the agricultural irrigation pipelines requires the crossing of Arroyo Grande Creek, a Frac-Out Contingency Plan shall be prepared and, and in the event of frac-out, it shall be implemented. The Frac-Out Contingency Plan shall include the following: ▫ The purpose of the contingency plan; ▫ Preventative measures to minimize the likelihood of a frac-out; ▫ The planning and design of the augur boring or horizontal directional drilling; ▫ Pre-construction requirements; and ▫ Contingency response to contain and remove drilling fluids and closeout procedures. The contingency response shall include general guidelines with all equipment required, guidelines for terrestrial frac-outs along the banks and riparian corridor of Arroyo Grande Creek, guidelines for aquatic frac-outs within Arroyo Grande Creek, and bore abandonment.	

Impact	Mitigation Measure(s)	Residual Impact
Impact BIO-4. The proposed project would not 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. No impact would occur.	No mitigation required.	No impact
Impact BIO-5. The project would result in impacts to biological resources protected by Local Policies. Implementation of Mitigation Measure BIO-5 would be required. Impacts would be less than significant with mitigation incorporated.	**BIO-5 Native Tree Inventory, Protection, and Replacement**. A Tree Preservation Plan shall be prepared by a certified arborist to inventory native trees that would be trimmed or removed by construction. Native trees shall be avoided to the maximum extent feasible. The plan shall include, but would not be limited to, an inventory of trees within the construction site plus a 50-foot buffer zone, requirements for setbacks from trees and protective fencing, restrictions regarding grading and paving near trees, and direction regarding pruning and digging within root zone of trees. If removal of native trees is required, the trees shall be replaced consistent with the requirements of the local agency which has jurisdiction as well as the associated tree removal permit that may be issued. Prior to the onset of construction activities, highly visible orange construction fencing shall be installed around existing stands and individuals identified in the Tree Preservation Plan to be retained at a buffer/extent radius of six feet beyond the canopy dripline, wherever feasible, or otherwise marked in the field to protect them from harm during implementation of the proposed project.	Less than significant
Impact BIO-6. The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact would occur.	No mitigation required.	No impact
Cumulative Impacts. Since almost all of the cumulative development projects within and near the project area known at this time are discrete residential or commercial developments, there would be no significant cumulative impact because cumulative development would mostly occur in urban areas where suitable habitat for special status species, riparian habitat, sensitive natural communities, wetlands, and other biological resources are likely already limited or non-existent, and movement patterns for wildlife in this region have already been constrained by the placement of existing development and infrastructure. Therefore, no significant cumulative	No mitigation required.	No impact

Impact	Mitigation Measure(s)	Residual Impact
impact related to biological resources would occur.		
Cultural Resources		
Impact CR-2. The proposed project has the potential to cause a substantial adverse change in the significance of unique archaeological resources and archaeological resources that may be considered historical resources. Impacts would be less than significant with mitigation incorporated.	**CR-2(a) Worker's Environmental Awareness Program.** A qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training should be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology (National Park Service 1983). Archaeological sensitivity training should include a description of the types of cultural material that may be encountered, cultural sensitivity issues, the regulatory environment, and the proper protocol for treatment of the materials in the event of a find. **CR-2(b) Archaeological and Native American Monitoring.** During initial ground disturbance for the project, a qualified archaeologist and locally affiliated Native American monitor shall monitor construction activities within the project area. Initial ground disturbance is defined as disturbance within previously undisturbed native soils. A cultural resources monitoring plan shall be completed prior to the commencement of monitoring, which outlines monitoring procedures, stop work authorities, and procedures to be taken in the event of a find. The monitoring plan shall also provide a monitoring form template to be completed by the monitors for each monitoring day. If, during initial ground disturbance, the qualified archaeologist determines that the construction activities have little or no potential to impact cultural resources (e.g., excavations are within previously disturbed, non-native soils, or within a soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend that monitoring be reduced or eliminated. If cultural resources are identified during initial monitoring, work in the immediate vicinity shall halt until the resource has been evaluated for significance. **CR-2(c) Unanticipated Discovery of Cultural Resources.** If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. Should cultural resources be discovered during excavation, additional studies including data recovery efforts may be needed to reduce project impacts and/or consultation with local tribes and the City, acting as lead agency, may be necessary to mitigate any significant impacts/adverse effects. **CR-2(d) Archaeological Resource Studies.** Prior to initial construction activities for the new production well and agricultural irrigation pipelines, a Phase I Cultural Resources Study shall be conducted for each project component by a qualified archaeologist meeting the Secretary of the Interior's standards in archaeology. The Phase I study shall	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	include a pedestrian survey of the project site to identify potential surficial archaeological resources and sufficient background archival research and field sampling to determine whether subsurface prehistoric or historic remains may be present. Archival research should include, at minimum, a records search conducted at the Central Coast Information Center and a Sacred Lands File search conducted with the NAHC. Any cultural resources so identified shall be avoided and preserved in place, if feasible. Where preservation in place is not feasible, each resource shall be evaluated for significance and eligibility for listing in the CRHR through the implementation of a Phase II evaluation program. Phase II 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. If the resource is found eligible for listing on the NRHP, CRHR, or local register, a Phase III data recovery program shall be conducted to mitigate the impacts to the resource if avoidance remains infeasible. A data recovery program shall include the development of a site-specific research design, testing program, laboratory analysis, and reporting with the intention of extracting data from the resource to the point of redundancy. Any excavation at Native American sites shall be monitored by a local tribal representative. Cultural materials collected from the sites shall be processed and analyzed in the laboratory according to standard archaeological procedures. The age of archaeological resources shall be determined using radiocarbon dating or other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the sites shall be evaluated according to the criteria of the CRHR. 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 an appropriate curation facility to be determined on a case-by-case basis in consultation with the City and interested parties (e.g., tribal organizations). If any of the resources meet CRHR significance standards, the City shall ensure that all feasible recommendations for mitigation of impacts are incorporated into the final project design. Any necessary archaeological data recovery excavation shall be carried out by a Registered Professional Archaeologist according to a research design reviewed and approved by the City, as the lead agency, and prepared in	

Impact	Mitigation Measure(s)	Residual Impact
	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. As applicable, the final Phase I Inventory, Phase II Testing and Evaluation, and Phase III Data Recovery reports shall be submitted to the City and the applicable land use permitting agency prior to final inspection of a construction permit. Recommendations contained therein, including, at minimum, requirements to follow for unanticipated archaeological discoveries during construction, shall be implemented throughout all ground disturbance activities.	
Impact CR-3. The proposed project would have the potential to disturb human remains. However, with adherence to existing regulations related to human remains, impacts would be less than significant.	No mitigation required.	Less than significant
Impact CR-4. The AB 52 consultation process did not identify specific tribal cultural resources that would be impacted by the proposed project. Impacts would be less than significant.	No mitigation required.	Less than significant
Cumulative Impacts. In the event that future cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis. It is anticipated that other developments that would have significant impacts on cultural resources would be required to implement similar mitigation measures described herein and would comply with all applicable laws and regulations governing cultural resources. Therefore, cumulative impact to cultural and tribal cultural resources would be less than significant.	No mitigation required.	Less than significant
Energy		
Impact E-1. Project construction and operation would require temporary and long-term consumption of energy resources. However, the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. No impact would occur.	No mitigation required.	No impact

Impact	Mitigation Measure(s)	Residual Impact
Impact E-2. The project would be potentially inconsistent with the energy efficiency and renewable energy policies of the City of Pismo Beach's Climate Action Plan and the City of Grover Beach's General Plan. Therefore, implementation of Mitigation Measures GHG-2 and E-2 would be required. Impacts would be less than significant with mitigation incorporated.	**E-2 Energy Efficiency and Renewable Energy Measures.** The proposed project shall implement the following energy efficiency and renewable energy measures: ▪ The ATF building shall incorporate LEED Silver design standards, such as outdoor and indoor water-efficiency features, energy-efficiency and conservation features, energy metering, demand response technologies and programs, and renewable energy systems, where feasible. ▪ The orientation of the ATF building shall be designed to accomplish the following to the maximum extent practicable: ▫ Maximize passive solar heating during cool seasons; ▫ Avoid solar heat gain in warm seasons; ▫ Enhance natural ventilation and effective use of daylight; ▫ Maximize opportunities for the installation of solar panels; ▫ Facilitate the use of sunlight for direct heating and illumination whenever possible; and ▫ Take advantage of natural ventilation and shading to cool a building. ▪ The ATF building shall use exterior shading devices, skylights, daylighting controls, high performance glazing that allows the transmission of light with minimal heat gain, and high thermal mass building components to the extent feasible.	Less than significant
Cumulative Impacts. The project would be potentially inconsistent with the City's Climate Action Plan and the City of Grover Beach's General Plan, which were adopted to reduce the cumulative impact of energy consumption in Pismo Beach and Grover Beach, respectively. With incorporation of mitigation, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to the plans adopted for renewable energy and energy efficiency.	Mitigation Measures GHG-2 and E-2	Not cumulatively considerable
Environmental Justice		
Impact EJ-1. Project components would be constructed in Oceano and Grover Beach, which are identified as environmental justice communities. However, with mitigation incorporated, the proposed project would not result in disproportionately high and adverse impacts to these communities. As a result, environmental justice impacts would be less than significant with	Mitigation Measures HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
mitigation incorporated.		
Cumulative Impacts. Either no cumulative impacts would occur as a result of the proposed project or, where cumulative impacts were identified, the project would not have a cumulatively considerable contribution to those cumulative impacts with mitigation incorporated. Therefore, the project would not have a cumulatively considerable impact to environmental justice communities with mitigation incorporated.	Mitigation Measures AQ-2(a), AQ-2(b), HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1	Not cumulatively considerable
Greenhouse Gas Emissions		
Impact GHG-1. Project construction and operation would generate temporary and long-term increases in GHG emissions. However, the project would be consistent with the State's long-term climate goals and strategies outlined in the 2017 Scoping Plan. Therefore, project-related GHG emissions would not result in a potentially significant contribution to climate change, and impacts would be less than significant.	No mitigation required.	Less than significant
Impact GHG-2. The proposed project would be potentially inconsistent with the City's Climate Action Plan, and implementation and mitigation measure GHG-2 would be required. Impacts would be less than significant with mitigation incorporated.	**GHG-2 GHG Emission Reduction Measures.** The proposed project shall implement the following GHG emission reduction measures, as identified in the City's Climate Action Plan: ▪ The ATF complex shall include a solar photovoltaic system. ▪ The ATF complex shall include recycling receptacles.	Less than significant
Cumulative Impacts. The adverse environmental impacts of cumulative GHG emissions are already occurring.; therefore, cumulative impacts related to GHG emissions are significant. With implementation of Mitigation Measure GHG-2, project impacts would be less than significant and would therefore not be cumulatively considerable.	Mitigation Measure GHG-2	Not cumulatively considerable
Hazards and Hazardous Materials		
Impact HAZ-1. Construction and operation of the project would increase the routine transport and use of hazardous materials in the project area but would not create a significant hazard to the public or the environment. The project has the potential to result in release of	**HAZ-1(a) Hazardous Materials Management and Spill Prevention and Control Plan.** Prior to the start of construction, the construction contractor(s) shall prepare a Hazardous Materials Management and Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan shall be applicable to construction activities and shall establish policies and procedures according to applicable	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
hazardous materials through reasonably foreseeable upset or accident conditions during both construction and operation of the project. Implementation of Mitigation Measures HAZ-1(a) and HAZ-1(b) would address this impact. Therefore, this impact would be less than significant with mitigation incorporated.	codes and regulations, including but not limited to the California Building and Fire Codes and federal and California Occupational Safety and Health Administration regulations, to minimize risks associated with hazardous materials spills. Elements of the Plan shall include, but would not be limited to the following: ▪ A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas; ▪ Notification and documentation of procedures; and ▪ Spill control and countermeasures, including employee spill prevention/response training. **HAZ-1(b) Preparation of Hazardous Materials Business Plan.** A Hazardous Materials Business Plan shall be prepared for the ATF complex. The Hazardous Materials Business Plan shall include, at a minimum, a hazardous materials inventory, site plan, emergency response plan, and requirements for employee training. The Hazardous Materials Business Plan shall be prepared prior to issuance of a certificate of occupancy for the ATF complex. The Hazardous Materials Business Plan shall inform staff and contractors of the chemicals that may be used at the site and how to respond to potential hazardous material emergencies or exposure. Signage specified in the HMBP shall be posted at the ATF complex and at associated chemical storage areas, and a copy of the hazardous materials inventory, site plan, and emergency response plan shall be kept at each chemical storage area. The hazardous materials inventory shall be consistent with chemicals ordered during operation and maintenance of the ATF complex.	
Impact HAZ-2. Although construction activities for the project would be conducted in compliance with all applicable regulations for the transport, storage, use, and disposal of hazardous materials and precautions would be taken to reduce potential risks, there is potential for an accidental release of hazardous materials within 0.25 mile of a school. Implementation of Mitigation Measure HAZ-1(a) would address this impact. Therefore, impacts would be less than significant with mitigation incorporated.	Mitigation Measure HAZ-1(a)	Less than significant
Impact HAZ-3. Project components would not be located on a site included on a list of hazardous materials sites nor would it create a significant hazard to the public. No impact would occur.	No mitigation required.	No impact

Impact	Mitigation Measure(s)	Residual Impact
Impact HAZ-4. The project would not result in a safety hazard or excessive noise exposure from the Oceano County Airport. Therefore, impacts would be less than significant.	No mitigation required.	Less than significant
Impact HAZ-5. Project construction would have the potential to interfere with an adopted emergency response plan or evacuation plan; therefore, implementation of Mitigation Measure T-1 would be requires. As a result, impacts would be less than significant with mitigation incorporated.	Mitigation Measure T-1	Less than significant
Impact HAZ-6. The project would not expose people or structures to significant risk of loss, injury, or death involving wildland fires. No impact would occur.	No mitigation required.	No impact
Cumulative Impacts. Due to the nature and location of cumulative projects proposed in the project area and immediate vicinity as well as existing regulations, there would no cumulative impacts related to hazardous materials, hazardous waste sites, emergency response plans, emergency access, airport hazards, and wildlife hazards.	No mitigation required.	No impact
Hydrology and Water Quality		
Impact HWQ-1. The project would potentially violate radioactive toxicity standards for effluent discharge from the existing ocean outfall. Implementation of Mitigation Measures HWQ-1 and BIO-3(c) would be required. Impacts would be less than significant with mitigation incorporated.	**Mitigation Measure BIO-3(c)** **HWQ-1 Initial Quarterly Radioactivity Testing.** Initial quarterly monitoring will be conducted at the full-scale facility for the first year of operation to establish future monitoring requirements and possible additional analysis of beta/photon emitters. If monitoring detects violations of the maximum contaminant level for radioactivity specified by California Code of Regulations Title 22, Division 4, Chapter 15, Article 5, Section 64443 occur, these exceedances shall be resolved. Potential treatment process to resolve identified exceedances would include, but would not be limited to, ion exchange, lime softening, and coagulation filtration.	Less than significant
Impact HWQ-2. Project construction and operation would not change the groundwater pumping limitations established in the SMGB adjudication agreement. In addition, the proposed project would have a beneficial impact on the SMGB. Therefore, no adverse impact related to groundwater supplies and groundwater recharge would occur.	No mitigation required.	No impact

Impact	Mitigation Measure(s)	Residual Impact
Impact HWQ-3. The project would not substantially alter the existing drainage pattern of the project area in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or 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. Impacts would be less than significant.	No mitigation required.	Less than significant
Cumulative Impacts. Given existing state and local regulatory requirements that address cumulative hydrology and water quality issues, no cumulative impact would occur.	No mitigation required.	No impact
Land Use		
Impact LU-1. The project would not physically divide an established community. No impact would occur.	No mitigation required.	No impact
Impact LU-2. The project would potentially result in significant environmental impacts due to potential conflicts with land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect. Implementation of Mitigation Measures HAZ-1(a), HAZ-1(b), N-1, N-2, and N-4 would be required. Although mitigation is available to address this impact, it may not be feasible to reduce all construction noise impacts that would potentially conflict with local noise standards below the applicable threshold. Therefore, impacts would be significant and unavoidable.	Mitigation Measures CR-2(a) through CR-2(d), BIO-3(a) through BIO-3(c), HAZ-1(a), HAZ-1(b), N-1, N-2, and N-4	Significant and unavoidable
Cumulative Impacts. Because cumulative projects would either be in conformity with the existing land use and zoning designations or would be required to undergo environmental review if they require land use and/or zoning amendments, no cumulative land use impacts would occur.	No mitigation required.	No impact

Impact	Mitigation Measure(s)	Residual Impact
Noise		
Impact N-1. Project construction would generate substantial temporary increase in ambient noise levels in the vicinity of project components in excess of local standards during project construction. Therefore, implementation of Mitigation Measure N-1 would be required. Although mitigation is available to address this impact, it may not be feasible to reduce all construction noise impacts below the applicable thresholds. Therefore, construction noise impacts would be significant and unavoidable.	**N-1 Construction Noise Reduction Measures.** The following construction noise reduction measures shall be implemented during project construction activities: ▪ Well drilling activities for IW-1, IW-2A, IW-2B, IW-3, MW-1A/1B, MW-2A/2B/2C, and MW-3A/3B, shall be scheduled during the non-peak season for the Coastal Dunes RV Park and Campground to the extent practicable, as defined by the County of San Luis Obispo Parks and Recreation Department. ▪ Construction of individual injection, monitoring, and production wells located within 0.25 mile of each other shall be scheduled so as not to overlap to the extent practicable. ▪ Construction of the water distribution/agricultural irrigation pipelines and ATF complex shall be scheduled so as not to overlap with construction of the injection, monitoring, and production wells. ▪ Noise-generating construction activities associated with IW-5A, IW-5B, and MW-5A/5B/5C shall not occur on the same days as noise-generating construction activities for the SSLOCSD Wastewater Redundancy Project to the extent practicable. ▪ Whenever possible, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels. ▪ The City shall coordinate with the County of San Luis Obispo Parks and Recreation Department to temporarily close all campsites within 200 feet of IW-1, IW-2A, IW-2B, IW-3, MW-1A/1B, MW-2A/2B/2C, and MW-3A/3B for the duration of 24-hour well drilling activities. ▪ During 24-hour well drilling activities associated with construction of MW-1C/1D, MW-2D/2E/2F, MW-4C/4D, and MW-5D/5E/5F, the City shall provide temporary housing accommodation via hotel or other comparable accommodation for the duration of 24-hour well drilling activities for residents in Grover Beach within 100 feet of construction activity and for residents in unincorporated San Luis Obispo County within 200 175 feet of construction activity. ▪ All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers. ▪ During injection and monitoring well construction, all equipment, fixed or mobile, shall be operated with closed engine doors and shall be equipped with properly operating and maintained critical grade mufflers consistent with manufacturers' standards. ▪ The City's contractor(s) shall use portable sound enclosures for all generators and air compressors that provide at least a 10-dBA reduction in noise levels. ▪ During injection and monitoring well construction, the City's contractor(s) shall install temporary sound barriers of sufficient height and length to break the line-of-sight	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
	between the engines of heavy-duty equipment and nearby sensitive receivers. All temporary barriers shall be constructed of material with a minimum weight of two pounds per square foot and shall be continuous with no gaps or holes between panels or the ground. Sound blankets on individual pieces of construction equipment may also be used in place of temporary sound barriers and shall be of sufficient length to overlap each other and the ground surface. Temporary sound barriers and/or blankets shall be installed for the entire duration of the well drilling phase for each injection and monitoring well. Temporary sound barriers shall meet the following specifications for each location: ▫ **IW-1 (Well Drilling)**. The barrier shall be at least 13 feet in height and shall be installed along the southern and eastern edges of the construction site. The barrier shall be at least 50 feet in length along the southern edge and at least 100 feet in length along the eastern edge. If sound blankets are used, they shall be a minimum STC rating of 9. ▫ **IW-2A and IW-2B (Well Drilling)**. The barrier shall be at least 13 feet in height and shall be installed along the northern, southern, and eastern edges of the construction sites. The barrier shall be at least 50 feet in length along the southern and northern edges and at least 100 feet in length along the eastern edge. If sound blankets are used, they shall be a minimum STC rating of 9. ▫ **IW-3 (Well Drilling)**. The barrier shall be at least 22 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides. If sound blankets are used, they shall be a minimum STC rating of 18. ▫ **IW-5A, IW-5B, and MW-5A/5B/5C (Well Drilling)**. The barrier shall be at least 13 feet in height and shall be installed along the western and northern edges of the construction sites. The barrier shall be at least 50 feet in length along the western edge and at least 100 feet in length along the northern edge. If sound blankets are used, they shall be a minimum STC rating of 8. ▫ **MW-1A/1B and MW-3A/3B (Well Drilling)**. The barrier shall be at least 13 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the southern and northern edges and at least 50 feet in length along the eastern and western edges. If sound blankets are used, they shall be a minimum STC rating of 9. ▫ **MW-1C/1D and MW-2D/2E/2F (Well Drilling)**. The barrier shall be at least 15 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the southern and northern edges and at least 50 feet in	

Impact	Mitigation Measure(s)	Residual Impact
	length along the eastern and western edges. If sound blankets are used, they shall be a minimum STC rating of 15. ▫ **MW-2A/2B/2C (Well Drilling)**. The barrier shall be at least 13 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides. If sound blankets are used, they shall be a minimum STC rating of 9. ▫ **MW-3D/3E (Well Drilling)**. The barrier shall be at least 12 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 50 feet in length along the southern and northern edges and at least 100 feet in length along the eastern and western edges. If sound blankets are used, they shall be a minimum STC rating of 7. ▫ **MW-4C/4D (Well Drilling)**. The barrier shall be at least 14 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides. If sound blankets are used, they shall be a minimum STC rating of 11. ▫ **MW-5D/5E/5F (Well Drilling)**. The barrier shall be at least 24 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western side. If sound blankets are used, they shall be a minimum STC rating of 20. ▪ The City shall provide a non-automated telephone number for local residents to call to submit complaints associated with construction noise during all phases of construction. The City shall maintain a log of complaints and shall address complaints to minimize noise issues for neighbors. ▪ Upon selection of the location of the new production well, an acoustical analysis shall be prepared by a qualified professional to determine the construction noise reduction measures necessary to reduce daytime exterior construction noise levels to at or below 80 dBA L_{eq} at the nearest sensitive receivers and nighttime exterior construction noise levels to at or below 55 dBA L_{eq} at the nearest sensitive receivers. The acoustical analysis shall only evaluate the construction noise impacts of the new production well if proposed construction activities are located within 1,620 feet of sensitive receivers, as measured from the center of the construction site. The acoustical analysis shall include the following components: ▫ Identification of the nearest noise-sensitive receivers to the location of the new production well; ▫ Quantitative analysis of construction noise levels for	

Impact	Mitigation Measure(s)	Residual Impact
	the production well at the nearest noise-sensitive receivers; and ▫ Identification of noise reduction measures that would achieve compliance with the aforementioned exterior daytime and nighttime noise standards. These measures may include, but would not be limited to, use of mufflers, portable sound enclosures, and temporary sound barriers and/or blankets. The City or its contractor(s) shall implement all noise reduction measures identified in the acoustical analysis.	
Impact N-2. Operation of the proposed project would potentially generate substantial permanent increases in ambient noise levels in the vicinity of the project in excess of local standards. Therefore, implementation of Mitigation Measure N-2 would be required. Impacts would be less than significant with mitigation incorporated.	**N-2 Acoustical Analysis of ATF Complex Operations.** Upon completion of the 30 percent design for the ATF complex and selection of equipment, an acoustical analysis shall be prepared to determine whether combined operational noise levels from stationary noise-generating equipment, including but not limited to the pump station, HVAC equipment, and treatment equipment, will exceed the following noise standards: ▪ Exterior noise level limits, measured at the property line of residential land use (GBMC Section 3120.8, Table 1): ▫ 60 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. ▫ 55 dBA L_{eq} from 10:00 p.m. to 7:00 a.m. ▪ Stationary equipment noise standards, measured at the property line of the receiving land use (GBMC Section 3120.10[B][6]):[3] ▫ 60 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. at single-family residential land uses ▫ 65 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. at multi-family residential land uses ▫ 70 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. at mixed use residential/commercial land uses ▪ Interior noise limits, measured at the interior of habitable rooms (i.e., bedrooms, kitchens, living rooms, dining rooms) of the affected residential use (GBMC Section 3120.9): ▫ 45 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. ▫ 40 dBA L_{eq} from 10:00 p.m. to 7:00 a.m. If operational noise levels would exceed any of the aforementioned noise level limits, the acoustical analysis shall provide recommended attenuation measures to reduce operational noise levels below the standards. These measures shall be implemented by the City at the ATF complex. Measures may include, but would not be limited to: ▪ Siting the pump station and/or HVAC equipment away from noise-sensitive land uses; ▪ Orienting the pump station and/or ATF building such that louvers face away from noise-sensitive land uses; ▪ Installing a sound barrier (e.g., a wall, berm, or	Less than significant

[3] Per GBMC Section 3120.10(B)(6), any stationary noise source that operates between the hours of 10:00 p.m. and 7:00 a.m. is required to obtain an Exception Permit.

Impact	Mitigation Measure(s)	Residual Impact
	combination or both) of sufficient height and length to break the line of sight between noise-sensitive land uses and noise sources at the ATF complex; ▪ Screening HVAC equipment; and/or ▪ Installing HVAC equipment on the rooftop rather than at ground-level.	
Impact N-3. Roadway noise generated by traffic associated with the proposed project would not generate a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of local standards during project operation. Impacts would be less than significant.	No mitigation required.	Less than significant
Impact N-4. Project construction and operation would not generate perceptible vibration at nearby receivers and would not exceed the threshold for structural damage; therefore, impacts would be less than significant.	No mitigation required.	Less than significant
Impact N-5. Project construction and operation would not expose construction workers and staff to excessive noise levels from the Oceano County Airport. Impacts would be less than significant.	No mitigation required.	Less than significant
Cumulative Impacts. Given the proximity of cumulative projects to project components with known locations, cumulative daytime construction noise impacts would be potentially significant. However, with implementation of Mitigation Measures N-1, the project's contribution to this impact would not be cumulatively considerable. Cumulative traffic noise impacts would be potentially significant due to increased traffic volumes; however, the project's incremental contribution to cumulative traffic volumes and associated noise levels would not be cumulative considerable. No cumulative impacts related to nighttime construction noise, operational noise, or airport operations would occur.	Mitigation Measure N-1	Not cumulatively considerable

Impact	Mitigation Measure(s)	Residual Impact
Transportation		
Impact T-1. Project construction would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Therefore, implementation of Mitigation measure T-1 would be required. Impacts would be less than significant with mitigation incorporated.	**T-1 Transportation Management Plan.** A Transportation Management Plan (TMP) shall be developed and implemented by the City, SSLOCSD, and/or their construction contractor(s) during construction of the proposed project. The TMP shall conform to Caltrans' Transportation Management Plan Guidelines and shall include but is not limited to: ▪ **Construction Traffic Routes and Staging Locations:** The TMP shall identify construction staging site locations and potential road closures, alternate routes for detours, and planned truck routes for construction-related vehicle traffic, including but not limited to haul trucks, material delivery trucks, and equipment delivery trucks. It shall also identify alternative safe routes and policies to maintain safety along bicycle and pedestrian routes during construction. Construction traffic routes shall avoid local residential streets to the maximum extent practicable. Staging locations, alternate detour routes, and construction traffic routes shall avoid other active construction projects within 0.25 mile of the project construction sites to the maximum extent practicable. ▪ **Damage Repair:** The TMP shall include the following requirements to minimize damage to the existing roadway network: ▫ A list of precautionary measures to protect the existing roadway network, including but not limited to pavements, curbs, gutters, sidewalks, and drainage structures, shall be outlined. The construction contractor(s) shall be required to implement these measures throughout the duration of construction of the water distribution pipelines. ▫ The roadway network along the proposed water distribution alignment(s) shall be surveyed prior to the start of project construction activities, and existing roadway conditions shall be summarized in a brief report. ▫ Any damage to the roadway network that occurs as a result of project construction activities shall be noted, and the project sponsors shall repair all damage. ▪ **Coordination with Emergency Services:** The TMP shall include requirements to notify local emergency response providers, including Five Cities Fire Authority, the San Luis Obispo Sheriff Department, ambulance services, and paramedic services at least one week prior to the start of work within public rights-of-way if lane and/or road closures are required. To the extent possible, the City shall minimize the duration of disruptions/closures to roadways and critical access points for emergency services. ▪ **Coordination with Recreation Facilities:** The TMP shall require coordination with owners/operators of any affected recreational facilities to minimize the duration of disruptions/closures to recreational facilities, trails,	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	and adjacent access points. ▪ **Coordination with South County Transit:** If the proposed project will affect access to existing South County Transit bus stops, the TMP shall also include temporary, alternative bus stops and directional signage, as determined in coordination with South County Transit. ▪ **Coordination with Schools:** The TMP shall require coordination with the Lucia Mar Unified School District in the study area to minimize construction impacts during the regular school year. ▪ **Coordinate with Caltrans:** If the proposed project requires lane and/or road closures of SR 1, the TMP shall require coordination with Caltrans to ensure the TMP conforms with Caltrans' Transportation Management Plan Guidelines. ▪ **Coordination with Nearby Construction Sites**: The TMP shall identify all active construction projects within 0.25 mile of project construction sites and require coordination with the applicants and/or contractors of these projects during all phases of construction regarding the following: ▫ All temporary lane and/or roadway closures shall be coordinated to limit overlap of roadway closures; ▫ All major deliveries and haul truck trips shall be coordinated to limit the occurrence of simultaneous deliveries and haul truck trips; and ▫ The City, its contractor(s), or its representative(s) shall meet on a regular basis with the applicant(s), contractor(s) or their representative(s) of active construction projects within 0.25 mile of the project construction sites during construction to address any outstanding issues related to construction traffic. ▪ **Transportation Control and Safety:** The TMP shall provide for traffic control measures including flag persons, warning signs, lights, barricades, cones, and/or detour routes to provide safe passage of vehicular, bicycle and pedestrian traffic and access by emergency responders. ▪ **Plan Approval:** The TMP shall be submitted to County of San Luis Obispo Department of Planning and Building and the City of Grover Beach Community Development Department for review and approval. ▪ **Public Notification:** Prior to the start of construction, written notice shall be provided regarding potential land and/or road closures as described in the TMP. Notice shall be delivered to potentially affected properties within a 500-foot radius of the project construction sites. The notice shall contain a brief description of the work, work dates, and contact information of the City's Planning Division. The notice shall be delivered ten calendar days prior to beginning the work and again at two working days prior to beginning the work. The notice shall be in the form of a door hanger made of index paper with a size of 14 inches by 4.5 inches. The	

Impact	Mitigation Measure(s)	Residual Impact
	notice shall be printed in both in English and Spanish. A revised notice shall be delivered in the event of delays in schedule as soon as reasonably possible after a delay is identified and the revised schedule is known.	
Impact T-2. The project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). No impact would occur.	No mitigation required.	No impact
Impact T-3. The proposed project would no substantially increase hazards due to a design feature or incompatible uses. Impacts would be less than significant.	No mitigation required.	Less than significant
Impact T-4. The project would potentially result in inadequate emergency access during construction activities; therefore, implementation of Mitigation Measure T-1 would be required. Impacts would be less than significant with mitigation incorporated.	Mitigation Measure T-1	Less than significant
Cumulative Impacts. Given the proximity of cumulative projects to project components with known locations, cumulative construction traffic impacts would be potentially significant. However, with implementation of Mitigation Measures T-1, the project's contribution to this impacts would not be cumulatively considerable. Cumulative traffic impacts would be potentially significant due to increased traffic volumes; however, the project's incremental contribution to cumulative traffic volumes would not be cumulative considerable.	Mitigation Measure T-1	Not cumulatively considerable

2001 CAP = 2001 Clean Air Plan; ROG = reactive organic gases; NO_X = nitrogen oxides; SLOAPCD = San Luis Obispo Air Pollution Control District; CARB = California Air Resources Board; ATF = advanced treatment facility; TAC = toxic air contaminant; IW = injection well; MW = monitoring well; CRLF = California reg-legged frog; USFWS = United States Fish and Wildlife; LCP = Local Coastal Program; GBMC = Grover Beach Municipal Code; BRA = Biological Resources Assessment; CDFW = California Department of Fish and Wildlife; CRPR = California Rare Plant Rank; USACE = United States Army Corp of Engineers; RWQCB = Regional Water Quality Control Board; LEED = Leadership in Energy and Environmental Design; SSLOCSD = South San Luis Obispo County Sanitation District; L_{eq} = average equivalent noise level; L_{max} = maximum instantaneous noise level; HVAC = heating, ventilation, and air conditioning; SR = State Route; CEQA = California Environmental Quality Act

Alternatives

As required by the California Environmental Quality Act (CEQA), this EIR examines the following six alternatives to the proposed project:

- Alternative 1: No Project
- Alternative 2: No Agricultural Irrigation Pipelines
- Alternative 3: ATF Complex at SSLOCSD WWTP
- Alternative 4: Modified Layout of Injection and Monitoring Wells
- Alternative 5: Increased State Water Project Allocation
- Alternative 6: Increased Storage of Lopez Reservoir

Alternative 1 (No Project) assumes that the proposed ATF complex, water distribution pipelines, injection wells, monitoring wells, new production well, and agricultural irrigation pipelines are not constructed. The full volume of secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs continues to be discharged to the ocean via the outfall pipeline. No seawater intrusion barrier is developed, and no additional recharge of the SMGB occurs. In addition, no recycled water is provided for agricultural irrigation.

Alternative 2 (No Agricultural Irrigation Pipelines) consists of an ATF complex (including an advanced purified water storage tank, an equalization tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, and one new production well. However, under this alternative, agricultural irrigation pipelines would not be constructed as part of Phase II of the project, and the water from the ATF complex would not be used to irrigate agricultural lands south of Oceano. Instead, either all advanced purified water produced from the ATF complex under Phases I and II (approximately 3.9 million gallons per day) would be used for groundwater injection, or the ATF complex would be constructed with less capacity than under the proposed project, thereby processing less secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs.[4]

Alternative 3 (ATF Complex at SSLOCSD WWTP) consists of an ATF complex (including an advanced purified water storage tank, an equalization tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, and one new production well. Alternative 3 would include injection of advanced purified water into the SMGB to develop a seawater intrusion barrier. In addition, a portion of the water from the ATF may be used for agricultural irrigation. However, under Alternative 3, the ATF complex would be constructed at the existing SSLOCSD WWTP facility at 1600 Aloha Place in Oceano. The existing SSLOCSD WWTP is located on a 10.86-parcel owned by SSLOCSD (Assessor's Parcel Number 061-093-047).

Alternative 4 (Modified Layout of Injection and Monitoring Wells) consists of an ATF complex (including an advanced purified water storage tank, an equalization tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, one new production well, and agricultural irrigation pipelines. However, under Alternative 4, the locations of some injection and monitoring wells and water distribution pipeline alignments would be modified to avoid recreational impacts to the Coastal Dunes RV Park and Campground.

[4] The determination of whether to construct an ATF complex with less capacity rather than use all advanced purified water for groundwater injection would be dependent on if additional groundwater recharge is necessary for protection and augmentation of groundwater supplies.

Alternative 5 (Increased State Water Project Allocation) assumes that the NCMA agencies would seek increased State Water Project (SWP) allocations rather than implementing the proposed project. To achieve an equivalent amount of water supply as the proposed project, an additional 3,566 acre-feet per year of SWP allocations would need to be secured. The full volume of secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs would continue to be discharged to the ocean via the outfall pipeline. No seawater intrusion barrier would be developed, and no additional recharge of the SMGB would occur. In addition, no recycled water would be provided for agricultural irrigation.

Alternative 6 (Increased Storage of Lopez Reservoir) consists of raising the spillway elevation of the Lopez Dam to increase the yield of the Lopez Reservoir rather than implementing the proposed project. The increased capacity would correlate to a greater entitlement of the water supply that can be distributed to NCMA agencies. However, the estimated water supply yield from this alternative would not be sufficient to provide an equivalent amount of water supply (i.e., 3,566 acre-feet per year) as the proposed project; therefore, this alternative would need to be implemented in conjunction with additional water supply alternatives, such as Alternative 5 or water conservation measures, in order to provide an equivalent amount of water supply as the proposed project.

Environmentally Superior Alternative

Based on the alternatives analysis in Section 7, *Alternatives*, the No Project Alternative (Alternative 1) is considered environmentally superior because it would eliminate all of the anticipated adverse environmental effects of the project. However, this alternative would not accomplish any of the objectives of the proposed project, some of which would have a beneficial impact on the environment, including: augmenting groundwater supply; creating a sustainable, drought-resistant, local water supply; providing a new source of recharge to the SMGB; reducing wastewater discharges to the ocean; and facilitated continued water resources collaboration in the NCMA. Of the remaining five alternatives, the Increased State Water Project Allocation Alternative (Alternative 5) is the environmentally superior alternative, primarily because this alternative does not require the physical construction of any new infrastructure. This alternative would avoid the project's significant and unavoidable construction noise and land use impacts and lessen the significant but mitigable impacts of the proposed project on air quality, biological resources, cultural resources, environmental justice, hazards and hazardous materials, hydrology and water quality, vibration, operational noise, and transportation/traffic. However, this alternative would increase impacts related to energy and GHG emissions because the energy intensity of SWP water is potentially greater than that of recycled water and use of additional SWP water is not consistent with the goals of the 2017 Climate Change Scoping Plan (California Air Resources Board 2017). In addition, Alternative 5 would not meet project objectives 1 through 4 because it would not augment groundwater supply; create a sustainable, drought-resistant, local water supply; recharge the SMGB; or reduce wastewater discharges to the ocean. Furthermore, this alternative would be dependent on the completion of successful negotiations with San Luis Obispo County Flood Control and Water Conservation District, Central Coast Water Authority, and the County of Santa Barbara, which are not guaranteed to result in increased SWP allocations for NCMA agencies.

Of the alternatives that would meet project objectives (Alternatives 2, 3, and 4), Alternative 2 would be the environmentally superior alternative because it would not include construction of agricultural irrigation pipelines and would therefore avoid all impacts associated with that project component, including those related to air quality, biological resources, cultural resources, energy,

GHG emissions, noise, and transportation/traffic. However, none of the project alternatives that would meet project objectives (Alternatives 2, 3, and 4) would avoid the project's significant and unavoidable construction noise and land use impacts associated with 24-hour well drilling activities for the injection, monitoring, and production wells in close proximity to residential land uses. Hydrogeologic limitations and regulatory requirements constrain the feasible locations of the injection, monitoring, and production wells, and given the prevalence of residential and hotel/motel land uses in Oceano and Grover Beach, it is not feasible to site all injection and monitoring wells at a sufficient distance from residential and hotel/motel land uses to avoid these impacts while also accounting for optimal hydrogeologic conditions and compliance with regulatory requirements for groundwater injection and indirect potable reuse. Refer to Section 7, *Alternatives*, for the complete alternatives analysis.

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1 Introduction

This document is an Environmental Impact Report (EIR) for a proposed advanced treatment facility (ATF) complex (including an equalization basin, an advanced purified water storage tank, and a pump station), water distribution pipelines, seven groundwater injection wells, ten monitoring wells, one new production well, and potential agricultural irrigation pipelines, collectively known as the Central Coast Blue Project. The proposed Central Coast Blue Project (hereafter referred to as the "proposed project" or "project") would be constructed at various locations in the city of Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano, which is a census-designated place. A portion of the advanced purified water may be used for irrigation of agricultural lands located generally south of Oceano.

The proposed project is intended to enhance the reliability of groundwater supplies in the Northern Cities Management Area (NCMA) of the Santa Maria Groundwater Basin (SMGB) by reducing the SMGB's vulnerability to drought and seawater intrusion. Historically, elevated freshwater levels along the coastline and natural outflow to the ocean have prevented seawater from intruding into the groundwater basin. However, groundwater elevations along the coastline have dropped due to changing climatic conditions, including more frequent periods of extended drought resulting in reduced inflow into the groundwater basin and increased demands on groundwater supplies resulting in a higher rate of groundwater extraction. These lower levels reduce the flow of freshwater out toward the ocean, which reduces the effectiveness of groundwater as a barrier to seawater, and in 2009, water quality constituents consistent with seawater intrusion were detected in the NCMA monitoring wells. If conditions worsen, seawater will draw toward the freshwater zone of the aquifer, contaminating it with elevated salt concentrations. To protect the aquifer from seawater intrusion, the proposed project would treat secondary treated wastewater effluent from the Pismo Beach and South San Luis Obispo County Sanitation District (SSLOCSD) Wastewater Treatment Plants (WWTPs) to an advanced level of purification and inject advanced purified water into the SMGB to develop a seawater intrusion barrier.

The proposed project is a multi-agency collaboration between the City of Pismo Beach (City), the SSLOCSD, and other agencies in the NCMA of the SMGB. The City is the lead agency for the proposed project because it has the first responsibility for issuing a discretionary approval for the proposed project. Several other local, state, and federal agencies will also have discretionary approval authority over the proposed project, as detailed further in Section 1.4, *Lead, Responsible, and Trustee Agencies*.

This section discusses (1) the project and EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) the lead, responsible, and trustee agencies; (5) the environmental review process required under the California Environmental Quality Act (CEQA); and (6) the organization of the EIR. The proposed project is described in detail in Section 2.0, *Project Description*.

1.1 Environmental Impact Report Background

The City distributed a Notice of Preparation (NOP) of the EIR for a 45-day agency and public review period starting on December 20, 2019 and ending on February 4, 2020. In addition, the City held an EIR Scoping Meeting on January 22, 2020. The meeting, held from 6:00 p.m. to 7:00 p.m., was aimed at providing information about the proposed project to public agencies, interested stakeholders and residents/community members. The meeting was held at the City's Council Chamber at 760 Mattie Road in Pismo Beach. The City received letters from seven agencies and members of the public in response to the NOP during the scoping period, as well as various verbal comments during the EIR Scoping Meeting. However, during the NOP circulation period, the proposed locations of the ATF complex, water distribution pipelines, and monitoring wells, which were previously undetermined, were selected. As a result, the City distributed a revised NOP of the EIR for a 45-day agency and public review period starting on April 13, 2020 and ending on May 28, 2020. In addition, the City held a second EIR Scoping Meeting on May 8, 2020 from 6:00 p.m. to 7:00 p.m. via an online videoconference.[1] The City received letters from three agencies in response to the revised NOP during the second scoping period, as well as various verbal comments during the second EIR Scoping Meeting. The two NOPs are presented in Appendix A of this EIR along with the NOP responses received and a transcript of the chat log from the videoconference for the second scoping meeting. Table 1-1 and Table 1-2 summarize the content of the letters and verbal comments for the first and second NOP circulation periods, respectively, and where the issues raised are addressed in the EIR.

Table 1-1 NOP Comments and EIR Response – First NOP Circulation from 12/20/2019 – 2/4/2020

Commenter	Comment/Request	How and Where it was Addressed
Agency Comments		
Native American Heritage Commission	States that the proposed project is subject to the requirements and provisions under Assembly Bill (AB) 52 and Section 106 of the National Historic Preservation Act regarding tribal cultural resources.	Consultation required by AB 52 and Section 106 of the National Historic Preservation Act was carried out by the City of Pismo Beach. The proposed project's potential impacts to tribal cultural resources are discussed in Section 4.3, *Cultural and Tribal Cultural Resources*, of this EIR.
California Department of Toxic Substances (DTSC)	Requests that the EIR address the potential for release of hazardous wastes/substances under the proposed project and the presence of sites used for mining activities within and/or in the vicinity of the project area.	Project impacts related to the potential release of hazardous wastes/substances and the presence of sites used for mining activities are discussed in Section 4.7, *Hazards and Hazardous Materials*, of this EIR.
	Requests the EIR address surveys for the presence of lead-based paints or products, mercury, asbestos-containing materials, and polychlorinated biphenyl caulk if buildings are to be demolished.	As discussed in Section 2, *Project Description*, no building demolition activities are required for the proposed project; therefore, no surveys for lead-based paints or products, mercury, asbestos-containing materials, or polychlorinated biphenyl caulk are necessary.

[1] This videoconference was held in accordance with the provisions of Executive Order N-29-20 (in effect at the time of the second scoping meeting), which authorized local legislative bodies to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public during the period in which state or local public health officials have imposed or recommended social distancing measures.

Commenter	Comment/Request	How and Where it was Addressed
DTSC (cont.)	Requests the EIR address the sampling of imported soil for contamination if required for backfilling excavated areas	Installation of the proposed water distribution and agricultural irrigation pipelines would require importation of backfill for excavated areas. The guidance provided by DTSC (2001) applies to "construction projects that will result in sensitive land uses…to protect people who live on or otherwise use a sensitive land use property." Sensitive land use properties are defined by the guidance as those that contain hospitals, homes, day care centers, and schools. The proposed water distribution and agricultural irrigation pipelines would not be installed under sensitive land uses; therefore, sampling of imported soil is not necessary.
	Requests the EIR address the investigation of organochlorinated pesticides on sites that have been used for agricultural, weed abatement, or related activities.	As discussed in Section 2, *Project Description*, the proposed project would construct several project components on lands formerly and presently used for agricultural activities. The guidance provided by DTSC (2008) applies to "new and/or expanded school sites or other project where new land use could result in increased human exposure, especially residential use." These project components would not result in increased long-term human exposure to organochlorinated pesticides after completion of project construction activities. Lands that are currently under agricultural uses would continue to be used for agricultural activities. Therefore, no investigation of organochlorinated pesticides is necessary.
Oceano Community Services District	Requests analysis of environmental impacts, during both construction and operation of the project, as they relate to services provided by the District, which include fire and emergency services, water supply, wastewater collection, solid waste and recycling, and parks and recreation.	Potential impacts regarding fire and emergency services, water supply, wastewater collection, and solid waste disposal are discussed in Section 4.12, *Effects Found Not to be Significant*, Section 4.6, *Hazards and Hazardous Materials*, and Section 4.11, *Transportation*.
	Requests evaluation of impacts to the groundwater basin to determine the optimal locations for groundwater recharge and to evaluate water quality impacts.	Potential impacts to water quality are evaluated in Section 4.8, *Hydrology and Water Quality*. The optimal locations of the injection wells were determined in the *Groundwater Flow Analysis Regional Groundwater Sustainability Project Arroyo Grande/Tri-Cities Mesa Area* (Cleath-Harris Geologists 2017) and the *City of Pismo Beach and South San Luis Obispo County Sanitation District Central Coast Blue Phase 1B Hydrogeologic Evaluation* (GEOSCIENCE Support Services 2019; Appendix G) reports. The purpose of this EIR is not to determine the optimal locations for groundwater recharge but rather to evaluate the physical impacts on the environment of the project as proposed, which includes the proposed injection well locations described in Section 2, *Project Description*.

Commenter	Comment/Request	How and Where it was Addressed
County of San Luis Obispo Department of Agriculture/Weights & Measures	Requests analysis of potential direct and indirect project impacts to agricultural resources.	Potential impacts to agricultural resources are discussed in Section 4.12, *Effects Found Not to be Significant.*
California State Lands Commission (SLC)	Requests a precise project description that describes the proposed activities as well as the length and time of the activities. Requests illustration on figures and written description of activities occurring below the mean high tide line for project area waterways.	A detailed project description of proposed activities is provided in Section 2.0, *Project Description.* No project activities are proposed to occur on State sovereign lands or below the mean high tide line.
	Requests discussion of project impacts to surface water systems and associated biological resources, water quality, and recreational facilities that may result from direct impacts to groundwater systems.	Potential impacts to surface water systems and water quality are discussed in Section 4.8, *Hydrology and Water Quality*. The project is not intended to impact or modify use of the shallow groundwater aquifer in the project area; rather, it includes injection and extraction from the lower aquifer formations of the SMGB. Potential impacts to biological resources and recreational facilities in the project area are discussed in Section 4.2, *Biological Resources*, and Section 4.12, *Effects Found Not to Be Significant*, respectively.
	Requests discussion of project impacts on sensitive species and habitats in and around the project area. Suggests conducting queries of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) and United States Fish and Wildlife Service's (USFWS) Special Status Species Database. Requests the inclusion of consultation with CDFW, USFWS, and National Marine Fisheries Service as applicable.	Potential impacts to sensitive species and habitats are discussed in Section 4.2, *Biological Resources*. As discussed therein, queries of the CDFW CNDDB and USFWS Information for Planning and Consultation System (i.e., the Special Status Species Database) were conducted to inform the analysis. At this time, consultation with CDFW, USFWS, and National Marine Fisheries Service is not anticipated to be required.
	Requests consideration of the project's potential to encourage the establishment or proliferation of aquatic invasive species. Requests discussion of whether the project would favor non-native fisheries or impact native pelagic organisms or at-risk fish species.	The proposed project does not include the use of construction boats, barges, or other vessels that would have the potential to introduce aquatic invasive species. The project does not include activities that would be conducted in the open ocean and therefore would have no impact to native pelagic organisms. Impacts to Arroyo Grande Creek are discussed in Section 4.2, *Biological Resources*.
	Requests evaluation of the project's noise and vibration impacts on fish and birds.	Project impacts to wildlife, including noise impacts to birds, are evaluated and mitigated in Section 4.2, *Biological Resources*. Project impacts related to noise are discussed in Section 4.10, *Noise*. The project would not involve work within waterways; therefore, impacts on fish would not occur.

Commenter	Comment/Request	How and Where it was Addressed
SLC (cont.)	Requests evaluation of project impacts to submerged cultural resources, specifically shipwrecks. Requests mention in the EIR that the title to cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the SLC.	The proposed project does not include activities in the ocean, on tidal or submerged lands, or on State lands. Therefore, no impacts to tidal or submerged cultural resources, including shipwrecks, under the jurisdiction of the SLC would occur. Project impacts to cultural resources are discussed in Section 4.3, *Cultural Resources*.
	Requests that mitigation measures are specific, feasible, fully enforceable, and not deferred until a future time in accordance with CEQA Guidelines Section 15126.4.	Mitigation measures throughout this EIR have been drafted in accordance with CEQA Guidelines Section 15126.4.
	Requests analysis of a range of reasonable alternatives to the project in accordance with the requirements of CEQA Guidelines Section 15126.6. Requests consideration of the impacts of each of the injection wells and the ATF complex.	Alternatives to the proposed project are discussed in Section 7, *Alternatives*, in accordance with the requirements of CEQA Guidelines Section 15126.6. The environmental impacts of each of the injection wells, ATF complex, and other project components are discussed throughout this EIR.
San Luis Obispo County Air Pollution Control District (SLOAPCD)	Requests a description of existing air quality setting, a summary of the attainment status of San Luis Obispo County, and a summary of existing regulations applicable to the project.	Section 4.1, *Air Quality*, includes a description of the existing environmental and regulatory setting, including a summary of the attainment status of San Luis Obispo County.
	Requests an analysis of potential air quality impacts and refers to the SLOAPCD (2012) *CEQA Air Quality Handbook*.	An analysis of the project's potential air quality impacts is included in Section 4.1, *Air Quality*, and was performed in accordance with the SLOAPCD (2012) *CEQA Air Quality Handbook*.
	Requests completion of an emissions analysis with emissions factors from approved emission calculation methods.	Emissions analyses are included in Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*, and were performed in accordance with emissions factors from approved emission calculation methods in accordance with the SLOAPCD (2012) *CEQA Air Quality Handbook*.
	Requests inclusion of mitigation measures if the SLOAPCD thresholds are exceeded	Section 4.1, *Air Quality*, includes mitigation measures to reduce construction-related air quality impacts below the SLOAPCD thresholds.
	Requests calculations for criteria air pollutants, fugitive dust, greenhouse gases, and toxic air contaminants by quarter and annually.	Calculations of criteria air pollutants, fugitive dust, greenhouse gases, and toxic air contaminants are included in Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*. Emissions calculations are provided quarterly and annually in accordance with guidance provided in the SLOAPCD (2012) *CEQA Air Quality Handbook*.
	Requests quantification of construction and operational emissions.	Emissions are quantified for construction and operation of the proposed project in Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*.

Commenter	Comment/Request	How and Where it was Addressed
SLOAPCD (cont.)	Requests a cumulative impact analysis of combined air quality impacts including all planned construction activities within one mile of the project.	Section 4.1, *Air Quality*, includes a cumulative impact analysis of combined air quality impacts and considers cumulative projects listed in Section 3, *Environmental Setting*, which include planned construction activities within one mile of the project area.
	Requests documentation of emission factors, reference sources, and all calculation assumptions in the EIR.	Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions* include discussions of the methodologies and assumptions used to calculate project emissions.
	Requests inclusion of feasible alternatives that would minimize air quality impacts. Requests an emissions analysis for each alternative.	No significant and unavoidable air quality impacts were identified for the proposed project; therefore, no alternatives are needed to address air quality impacts because all impacts would be mitigated to less-than-significant levels.
	States that a risk assessment may be needed if toxic or hazardous air pollutants are to be emitted within 1,000 feet of sensitive receptors.	Project impacts related to toxic air contaminants are discussed in Section 4.1, *Air Quality*.
	Provides information on the permitting requirements for construction equipment.	The project's construction contractors would be required to comply with all applicable requirements for permitting construction equipment.
Mike Prater, Local Agency Formation Commission (LAFCO; verbal comments at scoping meeting on 1/22/2020)	Notes that if the City choose to annex land in the city of Grover Beach, the City would need to comply with the annexation process overseen by the Local Agency Formation Commission. Notes that in the event of annexation, the Local Agency Formation Commission would act as a responsible agency and could use the EIR during its decision-making process.	At this time, the City does not anticipate annexing land in the city of Grover Beach.
Public Comments		
Surfrider Foundation – San Luis Obispo	Expresses support for injection to the groundwater basin in Phase I to assist with short-term risks of seawater intrusion. Expresses support for active outreach to local agricultural interests for use of advanced purified water under Phase II to reduce greenhouse gas emissions associated with groundwater injection as compared to use by agricultural end-users. Encourages the proposed project to plan for direct potable reuse.	As discussed in Section 2, *Project Description*, this EIR evaluates the potential for advanced purified water from the ATF complex to be transported to agricultural lands south of Oceano. Project impacts related to greenhouse gas emissions are discussed in Section 4.6, *Greenhouse Gas Emissions*.

Commenter	Comment/Request	How and Where it was Addressed
Julie Tacker	Notes that the proposed NOP provides no evidence of ongoing seawater intrusion or continuing threats to the groundwater aquifer.	See Section 2, *Project Description*, for a discussion of seawater intrusion. Additional information can be found in the 2019 *Northern Cities Management Area 2019 Annual Monitoring Report* prepared by GSI Water Solutions, Inc., available at: https://sgma.water.ca.gov/adjudbasins/report/preview/171. The purpose of this EIR is not to evaluate the necessity or merits of the project but rather to analyze the physical impacts of the project on the environment as proposed.
	States that the NOP for the EIR fails to discuss an analysis under the National Environmental Protection Act (NEPA) and suggests preparation of a CEQA-Plus EIR. Requests analysis of project impacts to State and federal special status species. Suggests that an Incidental Take Permit may be required for the project.	As discussed in Section 1.6, *Organization of the EIR*, this EIR includes analysis pertinent to several federal acts and regulatory requirements (also referred to as federal cross-cutters or CEQA-Plus) in Section 5, *Federal Cross-Cutting Requirements,* to satisfy requirements for the project to receive funding under a State program that also has a federal funding component. In addition, documentation pursuant to NEPA will be drafted at the time at which the project sponsors decide to pursue funding administered directly by a federal agency. Project impacts to special status species are discussed in Section 4.2, *Biological Resources*. At this time, an Incidental Take Permit is not anticipated to be required for the project.
	Provides information on the CEQA Guidelines requirements related to piecemealing or segmenting because the project is contemplated in two phases.	As discussed in Section 2, *Project Description*, the impacts of full buildout of the proposed project, including both Phases I and II, are evaluated throughout this EIR.
	Suggests that the California Coastal Commission may have jurisdiction over several project components. Recommends the avoidance of the Environmentally Sensitive Habitat Areas (EHSA) in the Coastal Zone.	As discussed in Section 2, *Project Description*, the California Coastal Commission is anticipated to be a responsible agency for the proposed project. Project impacts to ESHA are discussed in Section 4.2, *Biological Resources*.
	Requests quantification of the amount of concentrate that would be discharged to the ocean under Phases I and II. Requests analysis of the necessary dilution factors for concentrate disposal to the ocean.	As discussed in Section 2, *Project Description*, approximately 10 to 30 percent of influent flows to the ATF under both Phases I and II would be discharged as concentrate to the ocean via the existing ocean outfall. Therefore, approximately 130,000 to 390,000 gallons of concentrate would be discharged per day under Phase I, which has an influent capacity of 1.3 million gallons per day. Under Phase II, which has an influent capacity of 5.4 million gallons per day, approximately 540,000 to 1,620,000 gallons of concentrate would be discharged per day. Project impacts related to marine water quality and concentrate discharge are discussed in Section 4.8, *Hydrology and Water Quality*.

Commenter	Comment/Request	How and Where it was Addressed
Julie Tacker (cont.)	Requests the EIR fully analyze alternatives to the project that include options to secure additional water supplies.	Alternatives to the proposed project, which include securing an increased State Water Project allocation and increasing the storage capacity of Lopez Reservoir, are discussed in Section 7, *Alternatives*.
	Requests calculations of electricity use and associated greenhouse gas emissions and inclusion of measurable, feasible mitigation measures, if necessary.	Project impacts related to greenhouse gas emissions are discussed in Section 4.6, *Greenhouse Gas Emissions*. As discussed therein, increased groundwater pumping under the proposed project would require approximately 2,560 megawatt-hours (MWh) of electricity per year, and operation of the ATF complex would require approximately 8,000 MWh of electricity per year. Impacts related to GHG emissions were determined to be less than significant; therefore, mitigation is not required.
	Requests analysis of impacts to Oceano County Airport and Campground operations.	Project impacts related to Oceano County Airport and Campground are discussed in Section 4.7, *Hazards and Hazardous Materials*, Section 4.10, *Noise*, Section 4.11, *Transportation*, and Section 4.12, *Effects Found Not to Be Significant*.
	Suggests that 24-hour drilling of injection and production wells may have impacts on wildlife, camping, and residential neighbors.	Project impacts related to noise generated by 24-hour drilling activities are discussed in Section 4.10, *Noise*. Project impacts related to nighttime lighting associated with 24-hour drilling activities are discussed in Section 4.12, *Effects Found Not to Be Significant*. Project impacts to wildlife, including noise impacts to birds, are evaluated and mitigated in Section 4.2, *Biological Resources*.
	Requests delay of the EIR as the project may be found to be unnecessary and premature.	All scoping comments are included in Appendix A to the EIR and will be considered by City decision makers.
Jeff Edwards, Private Sector (verbal comments at scoping meeting on 1/22/2020)	Questioned whether a fully programmatic analysis would be better in the EIR as compared to a hybrid program/project EIR.	As discussed in Section 1.2, *Purpose and Legal Authority*, this EIR has been prepared as a hybrid program/project-level EIR in order to provide City decision-makers and the public with information that enables them to intelligently consider the environmental consequences of the proposed project. Preparing a program EIR for all project components when project-level details are known for the majority of components would not accomplish that purpose. Therefore, preparation of a hybrid program/project-level EIR is the most appropriate approach for the proposed project because this allows the EIR to disclose the environmental impacts of the project at its current stage of planning and design.

Commenter	Comment/Request	How and Where it was Addressed
Jeff Edwards (cont.)	Asked if and when environmental documentation pursuant to NEPA would be prepared.	As discussed in Section 1.6, *Organization of the EIR*, this EIR includes analysis pertinent to several federal acts and regulatory requirements (also referred to as federal cross-cutters or CEQA-Plus) in Section 5, *Federal Cross-Cutting Requirements* to satisfy requirements for the project to receive funding under a State program that also has a federal funding component. In addition, documentation pursuant to NEPA will be drafted at the time at which the project sponsors decide to pursue funding administered directly by a federal agency.
	Suggested consideration of an alternative in which the City generates or realizes more water in a different way, such as increasing its State Water Project allocation.	Alternatives to the proposed project, which include securing an increased State Water Project allocation and increasing the storage capacity of Lopez Reservoir, are discussed in Section 7, *Alternatives*.
	Questioned what mitigation will be proposed for excess greenhouse gas emissions.	Project impacts related to greenhouse gas emissions are discussed in Section 4.6, *Greenhouse Gas Emissions*. As discussed therein, impacts related to GHG emissions were determined to be less than significant; therefore, mitigation is not required.
	Questioned the validity of claims of seawater intrusion events in 2009.	The purpose of this EIR is not to evaluate the necessity or merits of the project but rather to analyze the physical impacts of the project on the environment as proposed.
	Asked what the ratio of permeate to concentrate would be for the reverse osmosis process.	As discussed in Section 2, *Project Description*, approximately 10 to 30 percent of influent flows to the ATF under both Phases I and II would be discharged as concentrate to the ocean via the existing ocean outfall.
	Suggested the City consider the need for approval from the Federal Aviation Administration for the use of drill rigs in close proximity to the airport.	As discussed in Section 4,7, *Hazards and Hazardous Materials*, the project sponsors would be required to coordinate with the San Luis Obispo County Airport Land Use Commission and the San Luis Obispo County Department of Airports for all construction activities occurring within the Airport Review Area and on the Oceano County Airport property. Applicable forms required by the Federal Aviation Administration, including Form 7460-1 (Notice of Proposed Construction or Alteration), would be submitted.
Brad Snook, Surfrider Foundation San Luis Obispo (verbal comments at scoping meeting on 1/22/2020)	Conveyed concern about microplastics in secondary treated effluent, reverse osmosis concentrate, and advanced purified water. Suggested the advanced treatment facility include monitoring of microplastics at the advanced treatment facility and consideration of further treatment processes that would reduce microplastics.	The quantity of microplastics in secondary treated effluent, which would be purified by the ATF as part of the proposed project, is part of existing baseline conditions. The proposed project would not include processes that would add microplastics to secondary treated effluent, reverse osmosis concentrate, or advanced purified water. The proposed project is not required by CEQA to mitigate an existing condition.

Commenter	Comment/Request	How and Where it was Addressed
Brad Snook (cont.)	Stated an opinion that the project would not be opposed by the community. Stated that the project specifics and costs will be important.	All scoping comments are included in Appendix A to the EIR and will be considered by City decision makers.
	Suggested the use of advanced purified water for agricultural irrigation as a primary use during Phase II of project buildout rather than for injection into the groundwater basin to avoid energy use by injection and production wells.	Project impacts related to energy are discussed in Section 4.4, *Energy*.

EIR = environmental impact report; MW = monitoring well; ATF = advanced treatment facility; CEQA = California Environmental Quality Act; NOP = Notice of Preparation; cont. = continued

Table 1-2 NOP Comments and EIR Response – Second NOP Circulation from 4/13/2020 to 5/28/2020

Commenter	Comment/Request	How and Where it was Addressed
Agency Comments		
Native American Heritage Commission	States that the proposed project is subject to the requirements and provisions under Assembly Bill (AB) 52 and Section 106 of the National Historic Preservation Act regarding tribal cultural resources.	Consultation required by AB 52 and Section 106 of the National Historic Preservation Act was carried out by the City of Pismo Beach. The proposed project's potential impacts to tribal cultural resources are discussed in Section 4.3, *Cultural and Tribal Cultural Resources*, of this EIR.
California Department of Transportation (Caltrans)	Notes that Caltrans requires a minimum two-foot clearance for utility crossing of Caltrans culverts.	The project will be required to comply with Caltrans requirements.
	Requests plans to clearly show where project components will enter the Caltrans right-of-way.	The project will be required to comply with Caltrans requirements.
	Provides guidance and states requirements for work within the Caltrans right-of-way.	The project will be required to comply with Caltrans requirements.
	Requests to be included in future public noticing.	Caltrans will be included in future distribution of public noticing.
California Department of Parks and Recreation (State Parks), Oceano Dunes District	Requests evaluation of impacts of environmentally sensitive habitat types and habitat values during project construction and operation.	Project impacts related to environmentally sensitive habitat types (including riparian habitat and wetlands), federally-listed species, and other biological resources are discussed in Section 4.3, *Biological Resources*. Project impacts to surface water and groundwater are discussed in Section 4.8, *Hydrology and Water Quality*.
	Requests evaluation of long-term hydrological impacts to Meadow and Arroyo Grande Creek.	Project impacts to surface water bodies are discussed in Section 4.8, *Hydrology and Water Quality*.
	Suggests acknowledging the recurring cone of depression documented by the NCMA adjacent to Arroyo Grande Creek.	Section 2, *Project Description*, provides a brief overview of the most relevant hydrogeologic conditions applicable to the proposed project; however, there are a number of other hydrogeologic conditions that occur in the project area that are not described explicitly because there are not germane to the proposed project.
	Expresses confusion on the amount of water to be injected into the groundwater basin in relation to the amount of increased groundwater pumping.	Section 2, *Project Description*, provides explanation on the volume of water injected versus extracted during Phases I and II of the project. Impacts to groundwater supplies are discussed in Section 4.8, *Hydrology and Water Quality.*
	Notes that the location of some of the proposed injection wells may be impacted by the San Luis Obispo County Flood Control & Water Conservation District Meadow Creek Lagoon mitigation/restoration project footprint.	As detailed in Section 2, *Project Description*, the proposed injection wells would be located in the Coastal Dunes RV Park and Campground owned by the County of San Luis Obispo, which is separated from Meadow Creek by State Route 1, and the SSLOCSD WWTP property. Neither property is owned by San Luis Obispo County Flood Control & Water Conservation District.

Commenter	Comment/Request	How and Where it was Addressed
		Furthermore, none of the injection well locations are within the currently proposed footprint of the Meadow Creek Lagoon Restoration Plan (Engelskirger 2020).
	Requests consideration of a sixth project objective to remediate surface water impacts of groundwater extraction occurring in the Cienega Valley.	Remediation of surface water impacts associated with groundwater extraction is not currently one of the project objectives for the proposed project. Advanced purified water would be injected into the lower aquifer formations to protect against seawater intrusion and may or may not benefit surface water quality in the Cienega Valley.
	Requests consideration of alternatives that address other local groundwater issues in addition to seawater intrusion.	Although the project is intended to address seawater intrusion, it would also have co-benefits of addressing other local groundwater issues by recharging the SMGB. Alternatives to the proposed project are discussed in Section 7, *Alternatives*.
	Requests inclusion of a program to coordinate with regional irrigators to monitor all Cienega Valley water production in the NCMA service area, not only delivered yield from the proposed project.	All scoping comments are included in Appendix A to the EIR and will be considered by City decision makers.
California State Parks (chat comment by Doug Rischbieter at scoping meeting on 5/7/2020)	Asked if the unspecified dimensions and quantities of the prospective agricultural irrigation water would be covered by the program-level analysis.	All aspects of the proposed agricultural irrigation pipelines are addressed at a program-level throughout this EIR because the locations and specifications of these pipelines are currently not known.
County of San Luis Obispo (chat comment by Kate Shea at scoping meeting on 5/7/2020)	Requested that the revised project description be posted to the State Clearinghouse's CEQANet with the revised NOP.	The revised project description was posted to the State Clearinghouse's CEQANet with the revised NOP and is available at: https://ceqanet.opr.ca.gov/2019120560/3.
Public Comments		
Brad Snook, Surfrider Foundation San Luis Obispo (verbal comments at scoping meeting on 5/7/2020)	Provided suggestions for textual revisions to the project description to clarify references to the Northern Cities Management agencies and to clarify the potential agricultural irrigation use.	The commenter's suggestions have been incorporated in Section 2, *Project Description*.
	Requested additional clarity regarding the 2009 coastal seawater intrusion event referenced in the project description.	See Section 2, *Project Description*, for a discussion of seawater intrusion. Additional information can be found in the 2019 *Northern Cities Management Area 2019 Annual Monitoring Report* prepared by GSI Water Solutions, Inc., available at: https://sgma.water.ca.gov/adjudbasins/report/preview/171.
	Expressed support for the project.	All scoping comments will be considered by City decision makers.
	Stated an opinion that it would make sense to keep purified water at the	Project impacts related to greenhouse gas emissions are discussed in Section 4.6,

Commenter	Comment/Request	How and Where it was Addressed
	surface from a greenhouse gas emissions perspective.	*Greenhouse Gas Emissions*.
	Expressed a desire for agricultural interests to be included in meetings for the proposed project and requested for those meetings to be documented for the public.	Agricultural interests are invited to participate in the annual NCMA Technical Group meeting, which includes discussions on groundwater conditions and water resource initiatives including Central Coast Blue. All scoping comments will be considered by City decision makers.
Cynthia Replogle (verbal comment at scoping meeting on 5/7/2020)[1]	Asked if the agricultural irrigation water would be treated to the same standard of advanced purified water or if lesser treatment would suffice.	As discussed in Section 2, *Project Description*, if some secondary effluent is treated for use in agricultural irrigation, secondary effluent would only go through microfiltration/ultrafiltration treatment and would not pass through the reverse osmosis or ultraviolet disinfection/advanced oxidation processes.

[1] Cynthia Replogle indicated that she was submitting comments as a member of the public and Oceano resident, not as a director of the Oceano Community Services District.

Note: Please see Appendix A for a transcript of the chat log from the second scoping meeting held via videoconference.

1.2 Purpose and Legal Authority

The proposed project requires the discretionary approval of several state and local agencies as detailed in Section 1.4, *Lead, Responsible, and Trustee Agencies*; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the CEQA Guidelines (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

> ...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

This EIR has been prepared as a hybrid program/project-level EIR pursuant to Sections 15161 and 15168 of the CEQA Guidelines. A Project EIR is appropriate for a specific project, and as stated in the CEQA Guidelines, a Project EIR "should focus primarily on the changes in the environment that would result from the project. The EIR shall examine all phases of the project, including planning, construction, and operation." Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that may be characterized as one large project.

The proposed project would be constructed in two phases and the design of various project components are at varying stages of completion; therefore, the locations, construction details, and component specifications are not known for all project components. The environmental impacts of project components with sufficient details available on design, location, and specifications are analyzed at a project level in this EIR. However, because the location, engineering, and construction details are not known for several of the project components at this time, this analysis evaluates the environmental impacts of those improvements at a programmatic level. Once these details are

known, project activities will be examined in light of this EIR to determine what, if any, additional CEQA documentation needs to be prepared.

If the programmatic analysis addresses the project's effects specifically and comprehensively, many subsequent activities could be found to be within the scope of the EIR, and additional environmental documents may not be required (CEQA Guidelines Section 15168[c]). When a lead agency relies on a Program EIR for a subsequent activity, it must incorporate applicable mitigation measures and alternatives developed in the Program EIR into the subsequent activities (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects not identified in the Program EIR, the lead agency must prepare a new initial study leading to a "Negative Declaration," "Mitigated Negative Declaration" or a project-level EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis.

As a "macro" level environmental analysis, the programmatic analysis in this EIR uses macro-level thresholds rather than the project-level thresholds used for the project-level analysis. It should not be assumed that impacts determined not to be significant at a macro level would not be significant at a project level. In other words, determination that implementation of the "programmatic" components of the project would not have a significant environmental effect does not necessarily mean that these components would not have significant effects based on project-level CEQA thresholds, even if these components are consistent with their description in this EIR.

This EIR has been prepared to analyze potentially significant environmental impacts associated with implementation of the proposed project and provides appropriate and feasible mitigation measures or project alternatives that would minimize or eliminate these impacts, where feasible. This EIR is intended to provide City decision-makers and the public with information that enables them to intelligently consider the environmental consequences of the proposed project. This EIR identifies significant or potentially significant environmental effects, as well as ways in which those impacts can be reduced to less than significant levels where feasible, whether through the incorporation of mitigation measures or through the implementation of specific alternatives to the project. In a practical sense, this document functions as a tool for fact-finding, allowing concerned citizens and agency staff an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure. The process will include public hearings before the City Council to consider certification of a Final EIR and approval of the proposed project.

1.3 Scope and Content

This EIR addresses potential impacts that could occur under the environmental issue areas identified in the CEQA Guidelines Appendix G as a result of the proposed project. In accordance with CEQA Guidelines Section 15063(a), an Initial Study was not prepared for this project because it was anticipated in the early stages of the CEQA process that an EIR would be the appropriate level of CEQA documentation.

In preparing this EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents for the project area, and other relevant background documents and published materials. A full reference list is provided in Section 8, *References*.

Chapter 7, *Alternatives*, of this EIR was prepared in accordance with Section 15126.6 of the CEQA Guidelines and focuses on alternatives that are capable of the following:

- Eliminating or reducing significant adverse effects associated with the project
- Feasibly attaining the basic project objectives

In addition, Chapter 7, *Alternatives*, identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and five alternative project scenarios.

The level of detail utilized throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the CEQA Guidelines provides the standard of adequacy on which this document is based as follows:

> An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.

1.4 Lead, Responsible, and Trustee Agencies

The CEQA Guidelines define lead, responsible and trustee agencies. The City of Pismo Beach is the lead agency for the project because it holds principal responsibility for approving the project. Per the California Code of Regulations (Title 14, Chapter 3, §15367), the lead agency is responsible for deciding whether an EIR or Negative Declaration is required for a proposed project. For this proposed project, it was determined that an EIR is the appropriate level of CEQA documentation, due to the potential for significant environmental impacts to occur. Therefore, this EIR assesses the potential impacts of the project and identified mitigation measures, as feasible, to reduce or minimize potential impacts. Contact information for the lead agency is:

Matthew Downing, Planning Manager
City of Pismo Beach
760 Mattie Road
Pismo Beach, California 93449
Phone: (805) 773-7044

Responsible agencies include any public agencies (other than the lead agency) which have discretionary approval over the project; as such, permitting approval by responsible agencies needs to be issued for a project to be implemented. The following are potential responsible agencies for the proposed project:

- California Department of Fish and Wildlife (CDFW)
- California Coastal Commission (CCC)
- State Water Resources Control Board (SWRCB), Division of Funding Assistance and the Division of Drinking Water
- California Department of Water Resources
- Central Coast Regional Water Quality Control Board (RWQCB)
- SSLOCSD
- County of San Luis Obispo
- California Department of Transportation (Caltrans)

- City of Arroyo Grande
- City of Grover Beach
- Oceano Community Services District (OCSD)

Several partner agencies, potentially including the City of Pismo Beach, South San Luis Obispo County Sanitation District, the County of San Luis Obispo, the City of Arroyo Grande, and the City of Grover Beach, may form a Joint Powers Authority (JPA) at a future time. Should a JPA be formed for the purposes of project funding, management, and operation, that JPA likely would serve as a responsible agency for the proposed project.

A trustee agency refers to a state agency having jurisdiction by law over natural resources that are held in trust for the people of California that may be affected by a project. The California Department of Fish and Wildlife is also a trustee agency for the project. The EIR will be submitted to all responsible and trustee agencies for review and comment.

The United States Bureau of Reclamation, the United States Army Corps of Engineers, the Federal Aviation Administration, and the United States Environmental Protection Agency may have permit or approval authority over certain aspects of the project; however, these agencies are not a responsible or trustee agencies under CEQA since they are federal agencies.

1.5 Environmental Review Process

The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. An overview of the CEQA process for the project is presented in sequential order.

1. **Notice of Preparation**. After deciding that an EIR is required, the lead agency (City of Pismo Beach) must file a Notice of Preparation (NOP) soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (CEQA Guidelines Section 15082; Public Resources Code [PRC] Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the project could create significant environmental impacts. In accordance with CEQA Guidelines Section 15063(a), an Initial Study was not prepared for this project because it was determined early in the CEQA process that an EIR is the appropriate level of CEQA documentation. During the first NOP circulation period, the specific locations of the ATF complex, water distribution pipelines, and monitoring wells, which were previously undetermined, were selected. As a result, the City distributed a revised NOP of the EIR for a 45-day agency and public review period.
2. **Scoping Meeting.** CEQA requires a scoping meeting for projects of statewide, regional, or areawide significance. The City held two scoping meetings for the proposed project on Wednesday, January 22, 2020 at 6:00 p.m. for the first NOP circulation period and Thursday, May 7, 2020 at 6:00 p.m. for the second NOP circulation period, via online videoconference.[2] A presentation was given at both scoping meetings to provide an overview of the proposed project and the CEQA process; these presentations are included as Appendix A to this EIR. See

[2] This videoconference was held in accordance with the provisions of Executive Order N-29-20 (in effect at the time of the second scoping meeting), which authorized local legislative bodies to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public during the period in which state or local public health officials have imposed or recommended social distancing measures.

Table 1-1 and Table 1-2 in Section 1.1, *Environmental Impact Report Background*, for a list of comments received during the first and second NOP circulation periods, respectively, and where the response can be found in the Draft EIR.

3. **Draft EIR.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing, and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes. A Draft EIR must be circulated for public and agency review for a period of at least 45 days. The public review period will be announced in the local newspaper and mailings, which will also include information regarding the locations where hard copies of the Draft EIR will be available for public review.

   The City is circulating the Draft EIR to local, state, and federal agencies, Native American tribes, and other interested agencies, organizations, and individuals. Written comments on the Draft EIR may be submitted to the lead agency during the 45-day public review period for the Draft EIR.

4. **Notice of Completion and Notice of Availability.** The lead agency must file a Notice of Completion (NOC) with the State Clearinghouse when it completes a Draft EIR and prepare a Notice of Availability (NOA) of a Draft EIR.

   - The **NOC** will include the address where hard copies of the Draft EIR are available for review and the review period during which comments will be received on the Draft EIR (CEQA Guidelines Section 15085). When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (PRC 21091).
   - The **NOA** will include information regarding where hard copies of the Draft EIR are available for review as well as information on how to submit comments on the Draft EIR to the lead agency (City of Pismo Beach). The lead agency will provide the NOA of the Draft EIR at the same time as it sends the NOC to the State Clearinghouse. Notice must also be given to all organizations and individuals who have previously requested such notice. The lead agency will file the NOA with the County Clerk's office for 45 days (CEQA Guidelines Section 15087[d]) and send a copy of the NOA to the State Clearinghouse (Office of Planning and Research). The lead agency must solicit input from other agencies and the public and respond in writing to all comments received during the public review period (PRC Section 21091[d][2]). Notice will also be given by at least one of the following procedures:
     - Publication at least one time by the public agency in a newspaper of general circulation in the area affected by the proposed project
     - Posting of notices by the public agency on and off the site in the area where the project is to be located
     - Direct mailing to the owners and occupants of property contiguous to the parcel or parcels on which the project is located

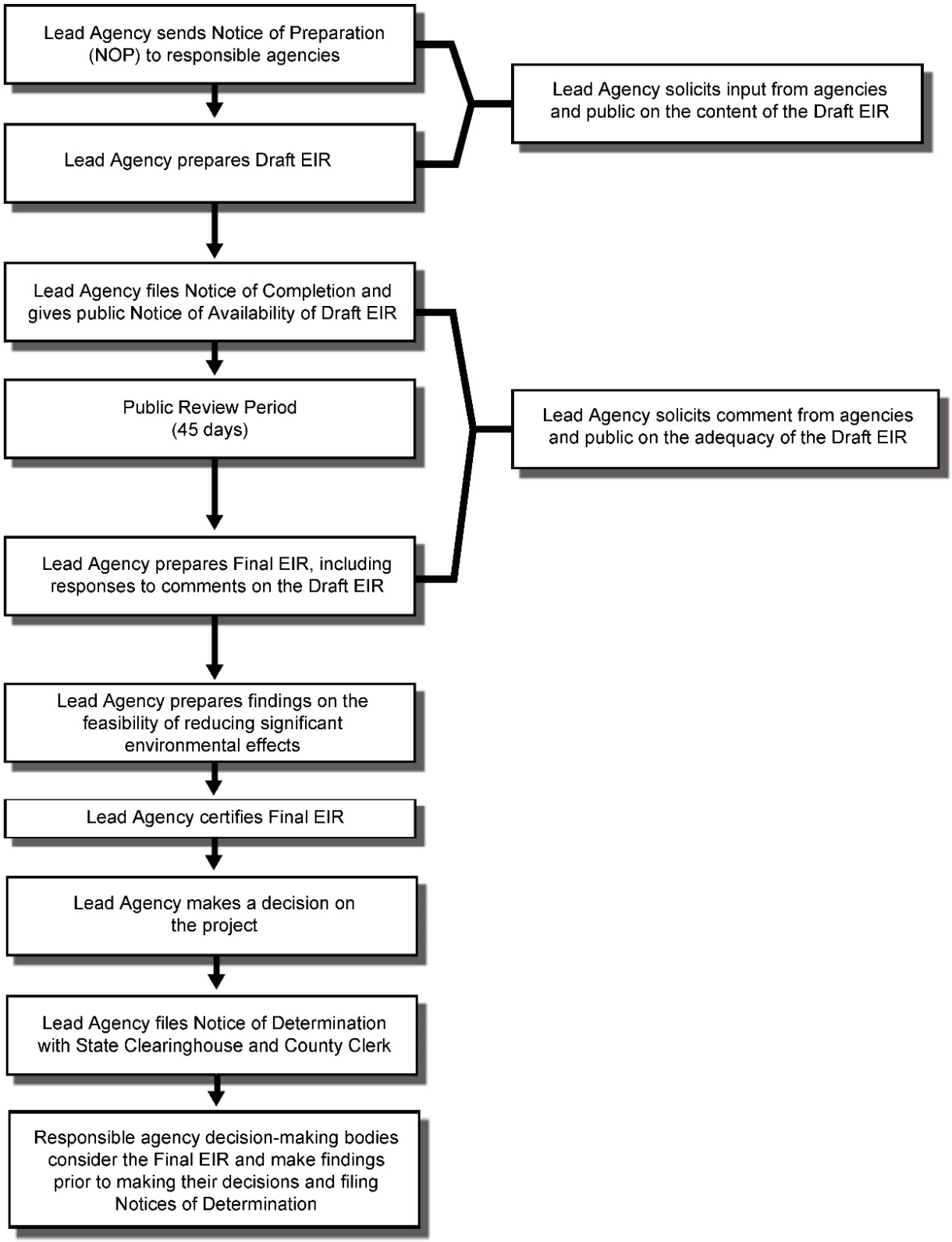
5. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; d) responses to comments on the Draft EIR, and e) errata to the Draft EIR that are incorporated in the Final EIR. A Final EIR for the proposed project will be prepared following completion of the review period for the Draft EIR.

   Per CEQA Guidelines 15088(b), the City's responses to written comments received on the Draft EIR will be provided to state/public agencies a minimum of 10 days prior to the City of Pismo

Beach City Council meeting. Per public disclosure requirements of the Brown Act, the Final EIR will be available for public review at least three days prior to the City Council meeting.

6. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project; and d) the Final EIR reflects the lead agency's independent judgment and analysis (CEQA Guidelines Section 15090).
7. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (CEQA Guidelines Sections 15042 and 15043). The City of Pismo Beach City Council will make a determination on the proposed project during a regularly scheduled City Council meeting.
8. **Findings/Statement of Overriding Considerations**. For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (CEQA Guidelines Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
9. **Mitigation Monitoring and Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
10. **Notice of Determination (NOD).** The lead agency must file a Notice of Determination (NOD) after deciding to approve a project for which an EIR is prepared (CEQA Guidelines Section 15094). The lead agency must file the NOD with the County Clerk within five working days of project approval. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (PRC Section 21167[c]).

Figure 1-1 Environmental Review Process



1.6 Organization of the EIR

The organization of the EIR is as follows:

- **Executive Summary.** The Executive Summary includes a description of the project and summarizes construction and operational impacts that the project would have on environmental resources, along with mitigation measures to reduce those impacts, where feasible. Significant unavoidable impacts of the project are also identified, where applicable. Alternatives that would reduce or avoid the significant impacts of the project are summarized. Areas of controversy are also identified.
- **Chapter 1 – Introduction.** This chapter describes the CEQA process and the organization of this document.
- **Chapter 2 – Project Description.** This chapter provides an overview of project components, describes the project objectives, and provides a list of permits and approvals that are anticipated to be required for the project.
- **Chapter 3 – Environmental Setting.** This chapter provides an overview of the regional and local project area setting and a summary of cumulative development anticipated within and near the project area.

  Chapter 4 – Environmental Impact Analysis. This chapter presents the physical and regulatory setting by environmental resource area, identifies impact significance criteria, and analyzes potential impacts of the project. Mitigation measures are identified, where applicable. Chapter 4 analyzes the following resource areas:
  - Air Quality (Section 4.1)
  - Biological Resources (Section 4.2)
  - Cultural Resources (Section 4.3)
  - Energy (Section 4.4)
  - Environmental Justice (Section 4.5)
  - Greenhouse Gas Emissions (Section 4.6)
  - Hazards and Hazardous Materials (Section 4.7)
  - Hydrology and Water Quality (Section 4.8)
  - Land Use and Planning (Section 4.9)
  - Noise and Vibration (Section 4.10)
  - Transportation (Section 4.11)
  - Effects Found Not to Be Significant (Section 4.12)

- **Chapter 5 – Federal Cross-Cutting Requirements.** The proposed project may receive funding under a State program that also has a federal funding component. Therefore, to assist in compliance with the federal environmental requirements for the funding program, this document includes analysis pertinent to several federal cross-cutting regulations (also referred to as federal cross-cutters or CEQA-Plus).
- **Chapter 6 – Other CEQA Required Discussions.** This chapter discusses growth inducement, significant environmental effects that cannot be avoided if the project is implemented, and significant irreversible environmental changes associated with the project. This chapter also provides a summary of cumulative impacts that are discussed in the resource sections.

- **Chapter 7 – Alternatives.** This chapter describes alternatives to the project and compares their impacts to those of the project. This chapter also summarizes alternatives that were considered but eliminated from further analysis.
- **Chapter 8 – References.** This chapter provides a list of references, as well as a list of City staff and its consultants responsible for preparation of this document.

Appendices provide information in support of the above chapters and are identified in the Table of Contents.

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2 Project Description

2.1 Project Title

Central Coast Blue

2.2 Lead Agency Name and Address

City of Pismo Beach
Community Development Department, Planning Division
760 Mattie Road
Pismo Beach, California 93449

2.3 Contact Person and Phone Number

Matthew Downing, AICP, Planning Manager
(805) 773-7044

2.4 Background and Project Overview

The cities of Pismo Beach, Grover Beach, and Arroyo Grande and the Oceano Community Services District (OCSD) obtain water from a combination of three sources: the California State Water Project, Lopez Reservoir, and local groundwater. Each of these sources is highly variable, with supply fluctuations on the order of thousands of acre-feet per year over the past decade (City of Pismo Beach 2016). The primary source of groundwater for these agencies is the NCMA of the SMGB. The cities of Pismo Beach, Grover Beach, and Arroyo Grande and OCSD (collectively referred to as the NCMA agencies) manage groundwater extraction in their portion of the basin to protect long-term sustainable use and to prevent seawater intrusion.

Historically, elevated freshwater levels along the coastline and natural outflow to the ocean have prevented seawater from intruding into the groundwater basin. However, groundwater elevations along the coastline have dropped due to changing climatic conditions, including more frequent periods of extended drought resulting in reduced inflow into the groundwater basin and increased demands on groundwater supplies resulting in a higher rate of groundwater extraction. These lower levels reduce the flow of freshwater out toward the ocean, which reduces the effectiveness of groundwater as a barrier to seawater, and in 2009, elevated concentrations of water quality constituents consistent with incipient seawater intrusion (i.e., total dissolved solids, sodium, chloride) were detected in the NCMA monitoring wells. If conditions worsen, seawater will draw toward the freshwater zone of the aquifer, contaminating it with elevated salt concentrations (GSI Water Solutions, Inc.).

Central Coast Blue (herein referred to as the “proposed project” or “project”) is a regional advanced purified water project intended to enhance supply reliability by reducing the SMGB’s vulnerability to drought and seawater intrusion. The project is a multi-agency collaboration between the NCMA agencies and SSLOCSD. The project would involve injection of advanced purified water into the SMGB via a series of injection wells, installed at various locations in the SMGB, to develop a seawater

intrusion barrier. Water for the project would be sourced from two of the region's wastewater treatment facilities - the Pismo Beach WWTP and the SSLOCSD WWTP. Prior to injection to the SMGB, water would be treated to an advanced level of purification at a proposed ATF complex, which would include an ATF, equalization basin, advanced purified water storage tank, and pump station. The proposed ATF would treat a combination of flows from the Pismo Beach WWTP and the SSLOCSD WWTP for injection in the SMGB and potentially for agricultural irrigation. The blend of source water treated at the ATF would depend on the amount of water available from each WWTP, the water quality characteristics of each of the water flows, the production capacity of the ATF, and the demand for advanced purified and potential irrigation water. The amount of water from each WWTP treated at the ATF would be adjusted periodically based on operational needs.

This EIR analyzes the majority of project components, including the injection wells, monitoring wells, water distribution pipelines, and ATF complex at a more detailed, project-specific level because they would be constructed in the near-term and the construction details, locations, and component specifications are generally well-known at this time. However, because the location, engineering, and/or construction details are not known for some project components at this time, this analysis evaluates the environmental impacts of those components, including the new production well and the agricultural irrigation pipelines, at a programmatic level. Once details are known, these project components will be examined in light of this EIR to determine what, if any, additional CEQA documentation needs to be prepared. Project components are described in detail in Section 2.8, *Description of Project*.

Project Objectives

The objectives for the proposed Central Coast Blue project are as follows:

1. Produce advanced purified water of a quality that can safely be used to augment groundwater supply while maintaining or improving existing groundwater quality
2. Create a sustainable, drought-resistant, local water supply and improve water supply reliability for southern San Luis Obispo County
3. Provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion
4. Reduce wastewater discharges to the ocean and maximize utilization of local water supplies
5. Facilitate continued water resources collaboration in the NCMA

2.5 Project Location

The project area, which encompasses the known locations of project components as well as the extent of potential sites for project components with unknown locations, is in the city of Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano, which is a census-designated place. Figure 2-1 shows the regional location of the project area, which is approximately 8.5 miles south of the city of San Luis Obispo. The project area is regionally accessible from U.S. Highway 101 and locally accessible from California State Route (SR) 1. Figure 2-2 shows the boundaries of the NCMA agencies overlain on an aerial view of the project area and the known locations of project components. The project area extends from West Grand Avenue in Grover Beach in the north to unincorporated San Luis Obispo County, including Oceano, in the

Figure 2-1 Regional Location

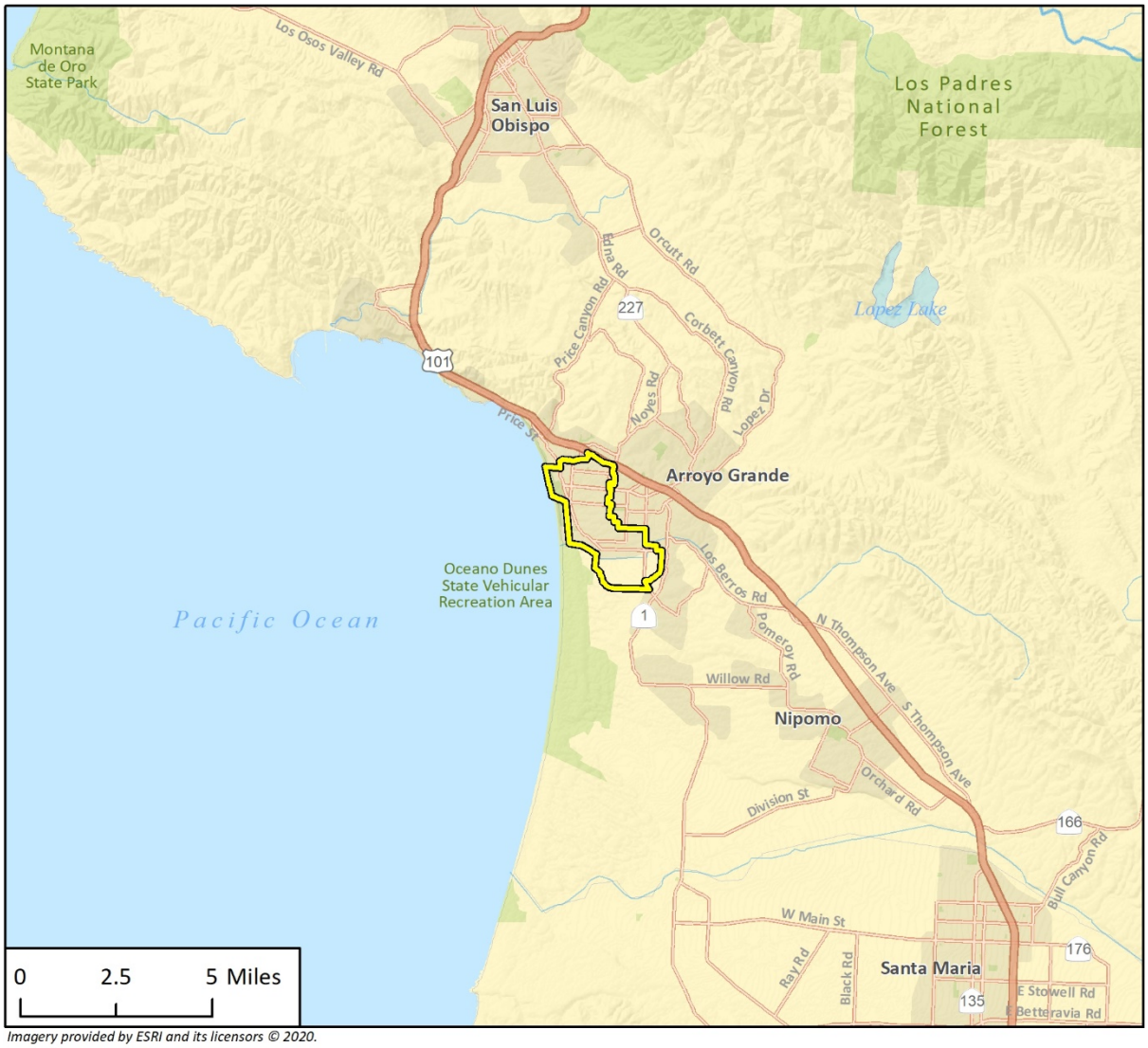
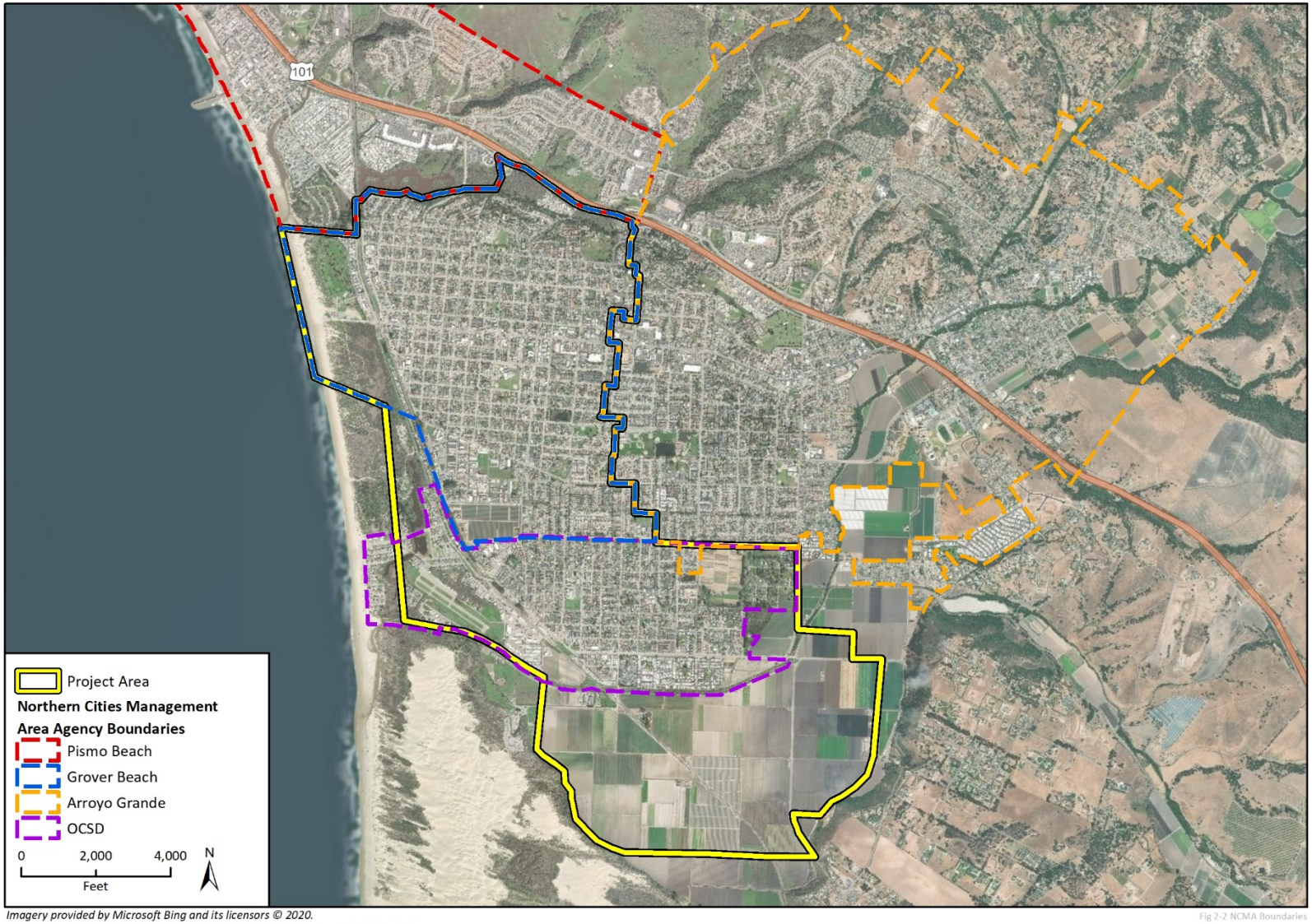


Fig 2-1 Regional Location

Figure 2-2 Boundaries of NCMA Agencies



Imagery provided by Microsoft Bing and its licensors © 2020.
Additional data provided by South San Luis Obispo County Sanitation District 2016

Fig 2-2 NCMA Boundaries

south. The total project area measures approximately 3.5 miles north to south to allow for appropriate spacing of the proposed injection wells.

Table 2-1 describes the known locations of project components.[1] Figure 2-3 presents a map of project components with known locations as well as the existing Pismo Beach and SSLOCSD WWTPs and NCMA production wells. Figure 2-3 presents a magnified view of project components with known locations. All of the project components would be located within one mile of the coast with the exception of the existing production wells that would be used for the proposed project, the one new production well likely to be located in Grover Beach, and the agricultural irrigation pipelines and associated irrigated lands. The new production well would be owned and operated by the City and likely would be in Grover Beach on land leased or acquired by the City. Potential agricultural irrigation pipelines would likely be located within public rights-of-way, as feasible. These pipelines would also traverse Arroyo Grande Creek and extend through agricultural lands south of Oceano, where they would terminate at the agricultural properties to be irrigated.

Table 2-1 Known Locations of Project Components

Project Component	APN	Address/Description	Existing Use
ATF Complex and MW-3D/3E	060-543-016	980 Huber Street (between Huber Street and Barca Street approximately 120 feet north of Calvin Court), Grover Beach[1]	An approximately 1.5-acre parcel that contains several unpaved storage yards separated with chain link fencing that are used for the storage of automobiles, trucks, recreational vehicles, storage containers, boats, trailers and miscellaneous equipment storage. Northwestern portion of the parcel occupied by American Roof Removal/American Roofing Co.
IW-1	060-267-001	West of the western terminus of Manhattan Avenue, Grover Beach	Coastal Dunes RV Park and Campground
IW-2A, IW-2B, and MW-2A/2B/2C	060-323-004	West of South 4th Street between Trouville Avenue and Farroll Road, Grover Beach	Coastal Dunes RV Park and Campground
IW-3	061-111-018	Northeast of intersection of SR 1 and Coolidge Drive, Oceano	Coastal Dunes RV Park and Campground
IW-4	061-111-017	East of SR 1 between Truman Drive and Pershing Drive, Oceano	Coastal Dunes RV Park and Campground
IW-5A, IW-5B, and MW-5A/5B/5C	061-093-047	1600 Aloha Place, Oceano	SSLOCSD WWTP
MW-1A/1B	Public right-of-way of Manhattan Avenue	Manhattan Avenue right-of-way west of South 4th Street, Grover Beach	Paved roadway
MW-1C/1D	060-193-022	Northeast corner of Longbranch Avenue and South 6th Street, Grover Beach	Undeveloped land

[1] Although ten monitoring well locations have been identified in this EIR for the purpose of the analysis, the final locations of monitoring wells will be selected during the Division of Drinking Water permitting requirements. If the final locations differ from those analyzed in this EIR, supplemental environmental review may be required.

Project Component	APN	Address/Description	Existing Use
MW-2D/2E/2F	Public right-of-way of South 5th Street	South 5th Street right-of-way between Mentone Avenue and Farroll Road, Grover Beach	Paved roadway
MW-3A/3B	Public right-of-way of South 4th Street	South 4th Street right-of-way between Leoni Drive and Calvin Court, Grover Beach	Paved roadway
MW-4A/4B	061-111-017	East of the eastern terminus of Pier Avenue, Oceano	Coastal Dunes RV Park and Campground
MW-4C/4D	060-591-018	West of the western terminus of The Pike, Grover Beach	Stormwater detention basin
MW-5D/5E/5F	062-271-006	1650 Front Street, Oceano	Oceano Depot
Water Distribution Pipelines	Public rights-of-way of Barca Street, South 4th Street, Calvin Court, SR 1, Coolidge Drive, Norswing Drive, Pershing Drive, and Mendel Drive	Barca Street, South 4th Street, Calvin Court, SR 1, Coolidge Drive, Norswing Drive, Pershing Drive, and Mendel Drive in Oceano and Grover Beach	Paved roadways
	061-093-047	1600 Aloha Place, Oceano	SSLOCSD WWTP
	061-093-044	561 Air Park Drive, Oceano	Oceano County Airport
	061-111-017 and -018	East of intersection of SR 1 and Coolidge Drive, Oceano	Coastal Dunes RV Park and Campground
	061-111-019, -021 and -022	East of intersection of SR 1 and Coolidge Drive, Oceano	Union Pacific Railroad track

APN = Assessor's Parcel Number; ATF = advanced treatment facility; IW = injection well; MW = monitoring well; SSLOCSD = South San Luis Obispo County Sanitation District; WWTP = wastewater treatment plant

1 A sign on one of the gates that provides access to this parcel identifies the site address as 980 Huber Street.

2.6 Project Sponsors' Name and Address

City of Pismo Beach
Public Works Department
760 Mattie Road
Pismo Beach, California 93449

South San Luis Obispo County Sanitation District
1600 Aloha Place
Oceano, California 93445

2.7 General Plan, Zoning, Coastal Zone Designations

Table 2-2 summarizes the General Plan and zoning designations for project components with known locations and indicates which components are in the Coastal Zone. See Figure 2-5 and Figure 2-6 for maps of General Plan land use and zoning designations, respectively. See Figure 2-7 for a map delineating which coastal development permit authority (i.e., City of Grover Beach, County of San Luis Obispo, or California Coastal Commission) has approval jurisdiction over project components with known locations in the Coastal Zone.

Figure 2-3 Project Components with Known Locations – Full Extent

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Figure 2-4 Project Components with Known Locations – Focused Extent

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Table 2-2 General Plan and Zoning Designations for Project Components with Known Locations

Project Component	General Plan Land Use Designation	Zoning Designation[1]	Combining Designation[2]	Coastal Zone and Permit Authority
ATF Complex and MW-3D/3E	Industrial	Industrial	N/A	Yes – City of Grover Beach
IW-1	Visitor Serving – Mixed-Use	Coastal Visitor Serving	N/A	Yes – City of Grover Beach
IW-2A, IW-2B, and MW-2A/2B/2C	Visitor Serving – Mixed-Use	Coastal Visitor Serving	N/A	Yes – City of Grover Beach
IW-3, IW-4, and MW-4A/4B	Recreation	N/A	Coastal Zone Archaeologically Sensitive Area Airport Review Area	Yes – County of San Luis Obispo
IW-5A, IW-5B, and MW-5A/5B/5C	Public Facilities	N/A	Coastal Zone Archaeologically Sensitive Area Wetland Airport Review Area Flood Hazard Area	Yes - California Coastal Commission
MW-1A/1B	Public right-of-way	Public right-of-way	N/A	No
MW-1C/1D	High Density Residential	High Density Residential	N/A	No
MW-2D/2E/2F	Public right-of-way	Public right-of-way	N/A	No
MW-3A/3B	Public right-of-way	Public right-of-way	N/A	No
MW-4C/4D	Public/quasi-public	Public Facilities	N/A	No
MW-5D/5E/5F	Recreation	N/A	Coastal Zone Airport Review Area	Yes – County of San Luis Obispo
Water Distribution Pipelines	Public Facilities, Recreation, Industrial, public rights-of-way	Industrial, public rights-of-way	Coastal Zone Archaeologically Sensitive Area Coastal Zone Creek or Stream Wetland Airport Review Area Flood Hazard Area	Yes – City of Grover Beach, County of San Luis Obispo, California Coastal Commission

ATF = advanced treatment facility; IW = injection well; MW = monitoring well; SSLOCSD = South San Luis Obispo County Sanitation District; WWTP = wastewater treatment plant; N/A = Not applicable

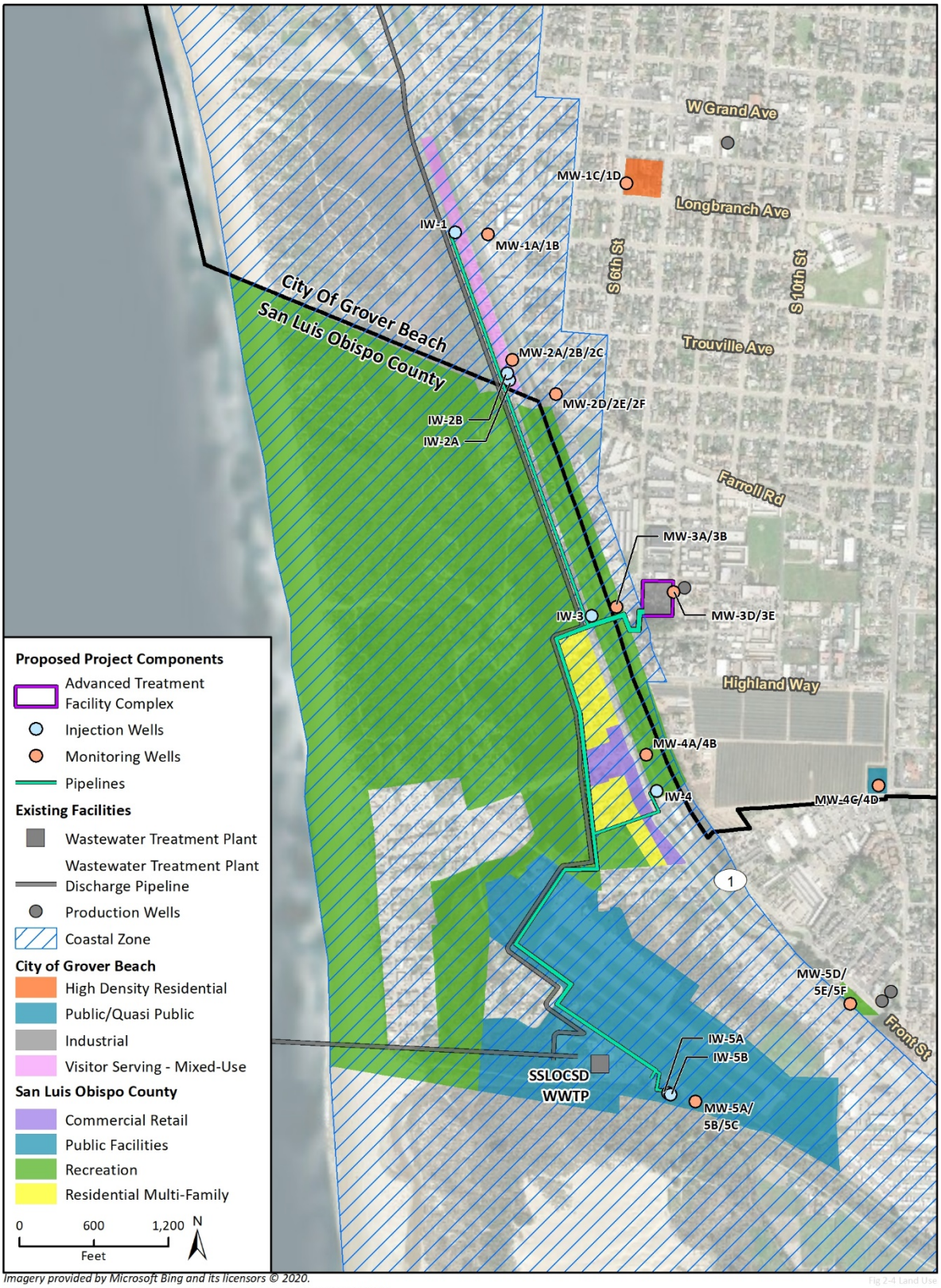
[1] The County of San Luis Obispo does not assign zoning designations to parcels in unincorporated San Luis Obispo County.

[2] Combining designations are assigned by the County of San Luis Obispo.

[3] For project components located in the Coastal Zone, the agency with coastal development permit authority is listed in parentheses.

Sources: City of Grover Beach 2014 and 2018; County of San Luis Obispo 2020.

Figure 2-5 General Plan Land Use Designations of Project Components with Known Locations



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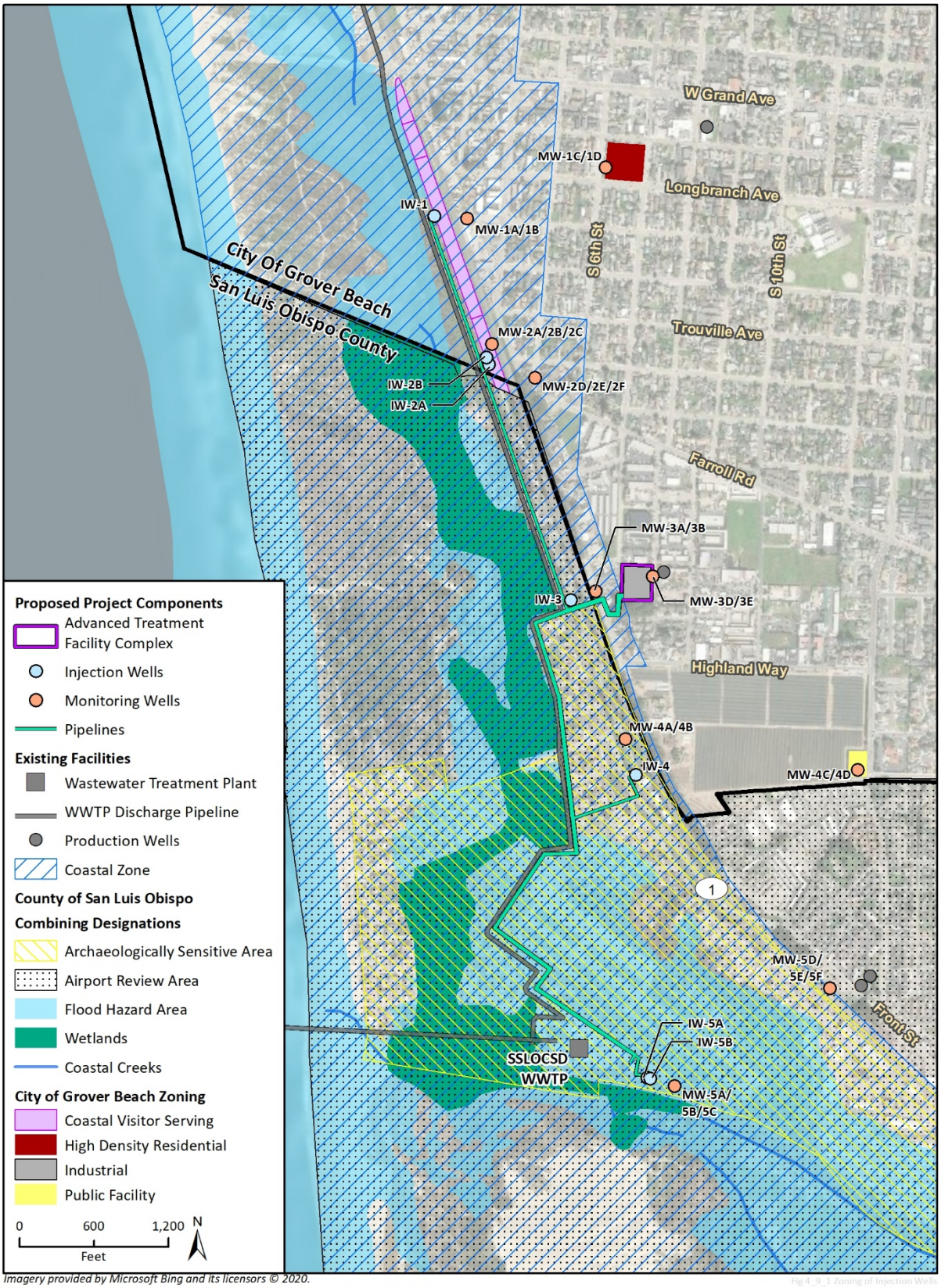
Additional data provided by Grover Beach and San Luis Obispo County, 2008.

Figure 2-6 Zoning Designations of Project Components with Known Locations



Imagery provided by Microsoft Bing and its licensors © 2020.
Additional data provided by County of San Luis Obispo and City of Grover Beach, 2017.

Fig 4_9_1 Zoning of Injection Wells

Figure 2-7 Coastal Development Permit Authority

Imagery provided by Microsoft Bing and its licensors © 2020.
Additional data provided by San Luis Obispo County, 2020.

2.8 Description of Project

The proposed project consists of an ATF complex (including an equalization basin, an advanced purified water storage tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, one new production well, and potential agricultural irrigation pipelines. The project would also include groundwater injection via the proposed injection wells and increased groundwater pumping from existing production wells. Each of these project components is described below.

Advanced Treatment Facility Complex

The ATF complex would include an ATF, an equalization basin, an advanced purified water storage tank, and a pump station, which would all be constructed on the same parcel (Assessor's Parcel Number 060-543-016).

Advanced Treatment Facility

The ATF would treat flows from the Pismo Beach WWTP and the SSLOCSD WWTP. The proportion of the ATF source water that each of these flows comprises would be determined based on the operational needs of the project and the need for supplemental water for the participating agencies, among other factors. The ATF would be designed with an initial influent and treatment capacity of up to 1.3 million gallons per day (mgd) and a final influent and treatment capacity of 5.4 mgd. During Phase I, the ATF would receive and treat secondary treated effluent flows from the Pismo Beach WWTP, and during Phase II, the ATF would receive and treat secondary treated effluent flows from both the Pismo Beach and SSLOCSD WWTPs. The ATF could initially produce up to 1.0 mgd of advanced purified water with a final production capacity of 3.9 mgd.[2] The Pismo Beach WWTP currently treats an average of 0.9 mgd of wastewater to a secondary treatment level. The existing treatment process starts with a bar screen to remove debris. After the bar screen, the water flows through oxidation ditches. The oxidation ditches operate under anoxic and aerobic conditions to remove nitrogen/ammonia from the water. Next, the water flows to a clarifier, where solids are settled out. At this point, the water has been treated to a non-potable level and can be disinfected in the chlorine contact basins and conveyed to the SSLOCSD WWTP where it is discharged to the ocean through the existing ocean outfall, which is shared with SSLOCSD.

The existing treatment process at the SSLOCSD WWTP is slightly different than the process described above for the Pismo Beach WWTP. The SSLOCSD WWTP currently treats approximately 2.4 mgd of wastewater to a secondary level. Similar to the process at the Pismo Beach WWTP, the first step of treatment is a bar screen that physically separates solids and large debris from the flow. After the bar screen, the water is sent to the grit removal stage to remove sand, silt and grit. Then, the wastewater flows to the primary clarifier, which uses gravity to separate solid compounds out of the water. Next, the wastewater flowing out of the primary clarifier goes to the fixed film reactor. The fixed film reactor is a large circular basin filled with a network of plastic media. Microorganisms grow on the plastic media. As the wastewater runs through the media, the microorganisms consume the dissolved organic matter in the water as their food supply. After the water leaves the fixed film reactor, it then goes to the secondary clarifier. The secondary clarifier performs the same process as the primary clarifier, using gravity to separate out any remaining solids or new solids that may have formed during the fixed film reactor stage of treatment. At this point, the water has been treated to a non-potable

[2] The difference between influent and production flows from the ATF are a result of the water losses that occur over the course of several steps of treatment processes, which are described in detail below.

level and can be disinfected in the chlorine contact chambers before being discharged to the ocean through the existing ocean outfall.

Advanced treatment would add several additional treatment steps to further purify water from the Pismo Beach WWTP and SSLOCSD WWTP. Additional treatment steps include microfiltration/ultrafiltration (MF/UF), reverse osmosis (RO), and ultraviolet (UV) disinfection with advanced oxidation. The first step in the advanced treatment process is MF/UF, which filters the wastewater that has already undergone secondary treatment through a physical membrane barrier with very small pores to remove turbidity, particles, and microorganisms. These pores range in size depending on the level of filtration; MF typically has a pore diameter of 0.1 micrometer (µm) and UF typically has a pore diameter of 0.01 µm. For comparison, 0.1 µm is 1/600th the diameter of a human hair. In comparison, the smallest size of bacteria is approximately 0.3 µm, which is 1/300th the diameter of a human hair. MF/UF removes very small particles and prepares the water for the next step of RO. The MF/UF membranes are permeable and retain suspended particulates, including bacteria, protozoa, and some organics and viruses, thereby removing these constituents from the water. The MF/UF membranes are designed to adapt to water quality conditions and flow with automatic adjustments to the filter system, which saves energy, chemical use, and manpower. Figure 2-7 provides an illustrated example of the MF process. The UF process is similar to that of the MF process; however, more organics and viruses are removed in the UF process due to the smaller pore size.

From the MF/UF component, the water travels downstream to the RO component. RO removes dissolved solids, organic contaminants, sugars, salts, and sub-micron particles and pathogens, including viruses, bacteria, and protozoa, from the water. It also uses a physical membrane barrier with pore sizes that range from 0.02 µm to 0.0001 µm depending on the membranes used. Figure 2-8 provides an illustrated example of the RO process. Unlike MF/UF, RO produces a clean water stream (permeate) and a wastewater stream (concentrate). This means that not all the water is recovered from this process as permeate water. A percentage of the water becomes concentrate (typically about 10 to 30 percent), which contains a higher concentration of the dissolved particles than were in the source water flow. This concentrate will ultimately be discharged to the ocean through the existing ocean outfall that currently receives all the flow from the Pismo Beach and SSLOCSD WWTPs. While the concentrate stream is more concentrated than typical drinking water, it is still much less salty than ocean water or concentrate from ocean desalination facilities. As discussed in the *RO Concentrate Sampling Plan Results* prepared by Carrollo Engineers (2018), the large majority of constituents present in RO concentrate produced using treated wastewater from the City's WWTP will not cause exceedances of the City's National Pollutant Discharge Elimination System permit effluent concentration limits (Appendix B). Although testing determined that Total Residual Chlorine concentrations exceed the effluent concentration limits, this issue is present in both the RO source water and RO concentrate and is therefore a result of the secondary treatment process at the Pismo Beach WWTP, not the proposed advanced treatment process. Nevertheless, the ATF would include a process to neutralize the chlorine, which would resolve the exceedance of Total Residual Chlorine concentrations. Testing of RO concentrate produced using the treated wastewater from the SSLOCSD WWTP has not been performed because the advanced treatment pilot plant was located at the Pismo Beach WWTP and the SSLOCSD WWTP effluent water quality is expected to change with implementation of the planned SSLOCSD WWTP Redundancy Project. [3]

[3] The SSLOCSD WWTP Redundancy Project involves the installation of new equipment and associated piping, instrumentation, and electrical systems, construction of one building, rehabilitation of existing equipment, installation of a new flood barrier, and elevation of existing flood gates at the SSLOCSD WWTP property located at 1600 Aloha Place in Oceano.

After the dissolved solids have been removed, the water that passed through the RO membranes is of very high quality and is ready for the UV disinfection/advanced oxidation treatment process. The UV disinfection component provides additional treatment by oxidizing trace chemical pollutants that may have passed through the MF/UF and RO stages. Advanced oxidation uses UV light and oxidation chemicals to initiate a series of chemical reactions that break down compounds in the water that cannot be broken down by biological treatment or removed using the membranes. Figure 2-9 provides an illustrated example of the UV/advanced oxidation treatment process.

In addition to the advanced treatment components described above, the ATF would include staff support facilities that may include office space, a locker room, restrooms, file storage, a break room and kitchen, chemical storage and feed facilities, and an emergency power generator. The ATF would occupy approximately 0.85 acre, and the support facilities would occupy approximately 0.14 acre.

Equalization Basin, Storage Tank, and Pump Station

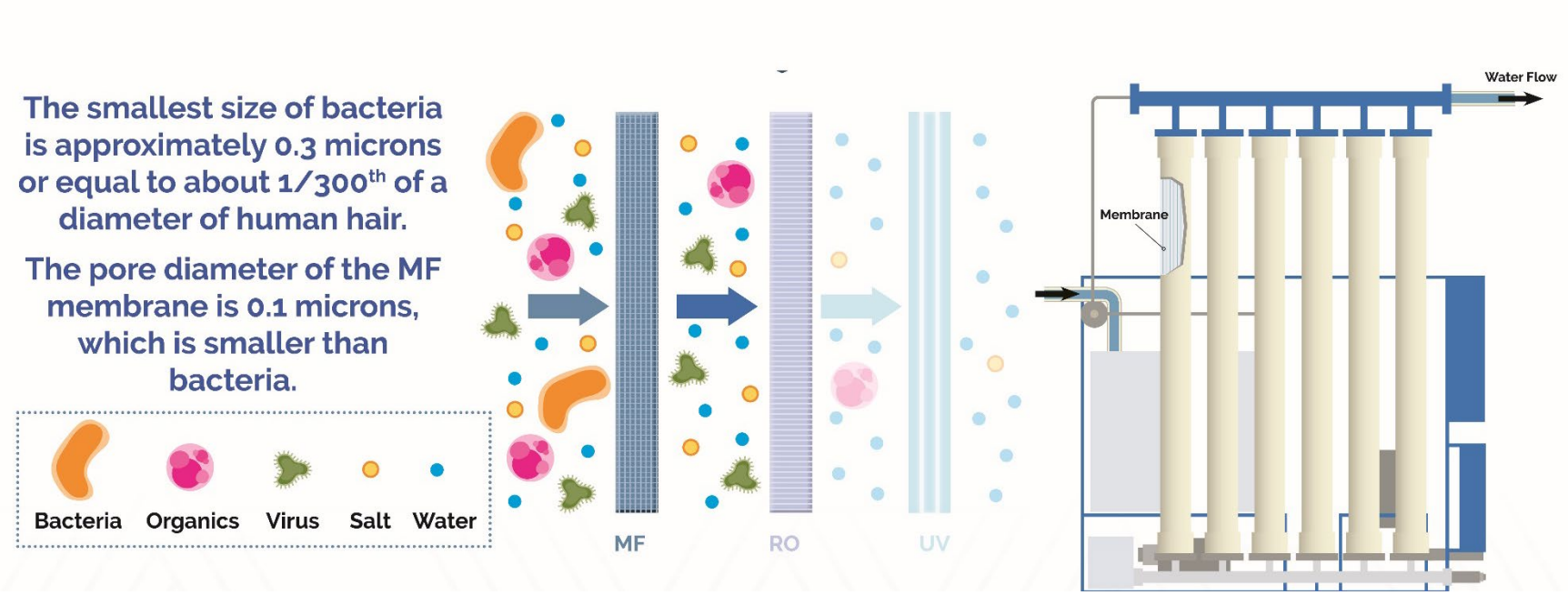
The project would involve construction of an aboveground equalization storage basin as part of the ATF complex, providing greater capacity and operational flexibility to the ATF. The 1.1 million gallons of storage is required to store the secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs prior to advanced purification in the ATF, allowing operations staff to address fluctuations in flow from the WWTPs without impacting the flow rate to the ATF. The equalization basin would occupy approximately 7,500 square feet of surface area.

Following advanced purification in the ATF, water would travel to the proposed 538,632-gallon advanced purified water storage tank and then to the proposed pump station, where advanced purified water would be pumped to the injection wells. The advanced purified water storage tank would provide operational flexibility and help to maintain a consistent flow in the advanced purified water pump station. The storage tank would be located below ground adjacent to the ATF as part of the ATF complex. The pump station would be housed in a rectangular, cast-in-place concrete building to limit noise and corrosion due to weather. The pump station would occupy approximately 0.03 acre and would be located above the storage tank and adjacent to the ATF as part of the ATF complex. A conceptual drawing of the overall treatment process that would be used is shown in Figure 2-10.

Water Distribution Pipelines

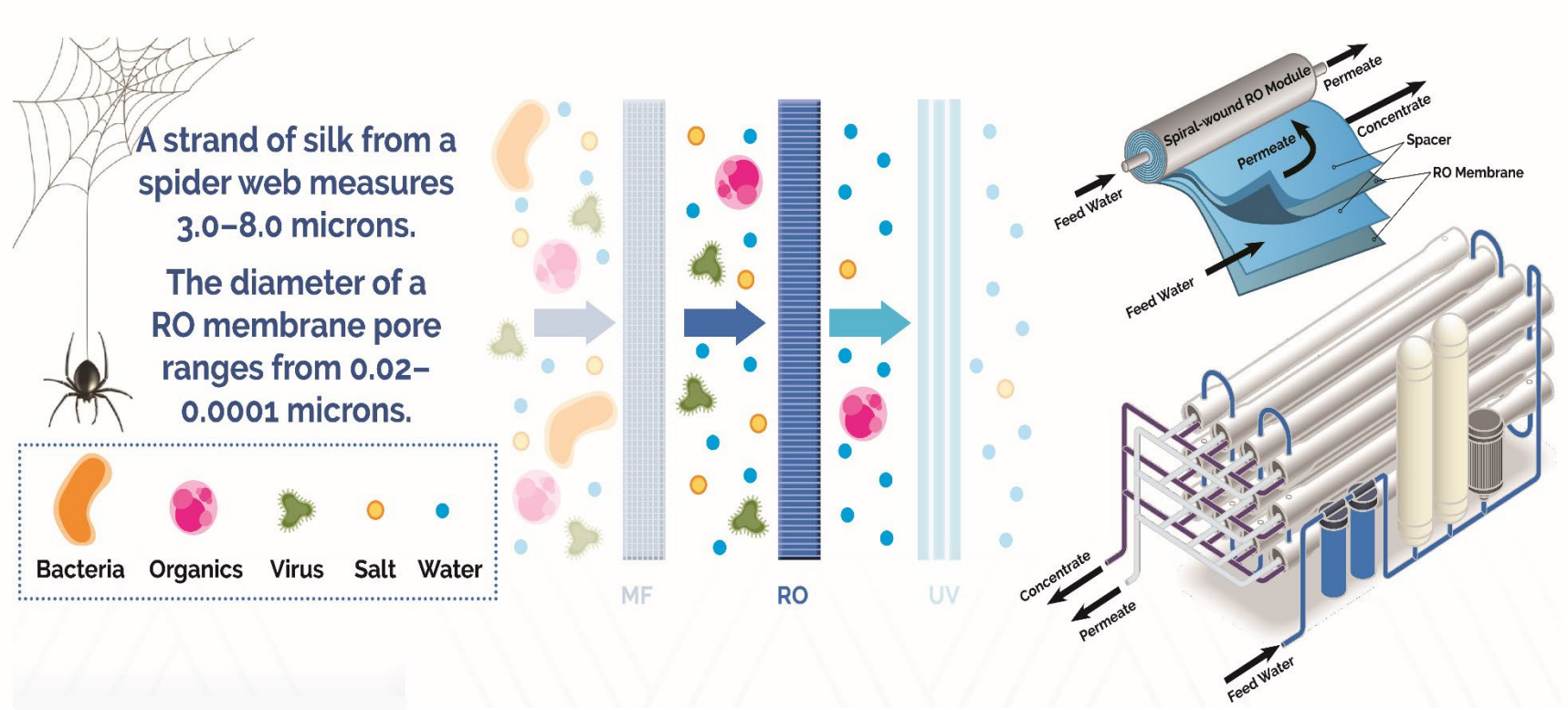
Water distribution pipelines would be installed along the alignments shown in Figure 2-3. These pipelines would accomplish four purposes: 1) convey secondary treated effluent from the Pismo Beach WWTP from the existing WWTP discharge pipeline to the proposed ATF; 2) convey secondary treated effluent from the SSLOCSD WWTP to the proposed ATF; 3) convey advanced purified water from the proposed ATF to the injection wells; and 4) convey concentrate from the proposed ATF to the existing WWTP discharge pipeline. The pipelines would range in size from approximately 6 to 24 inches.

Figure 2-8 Conceptual Microfiltration Process Detail



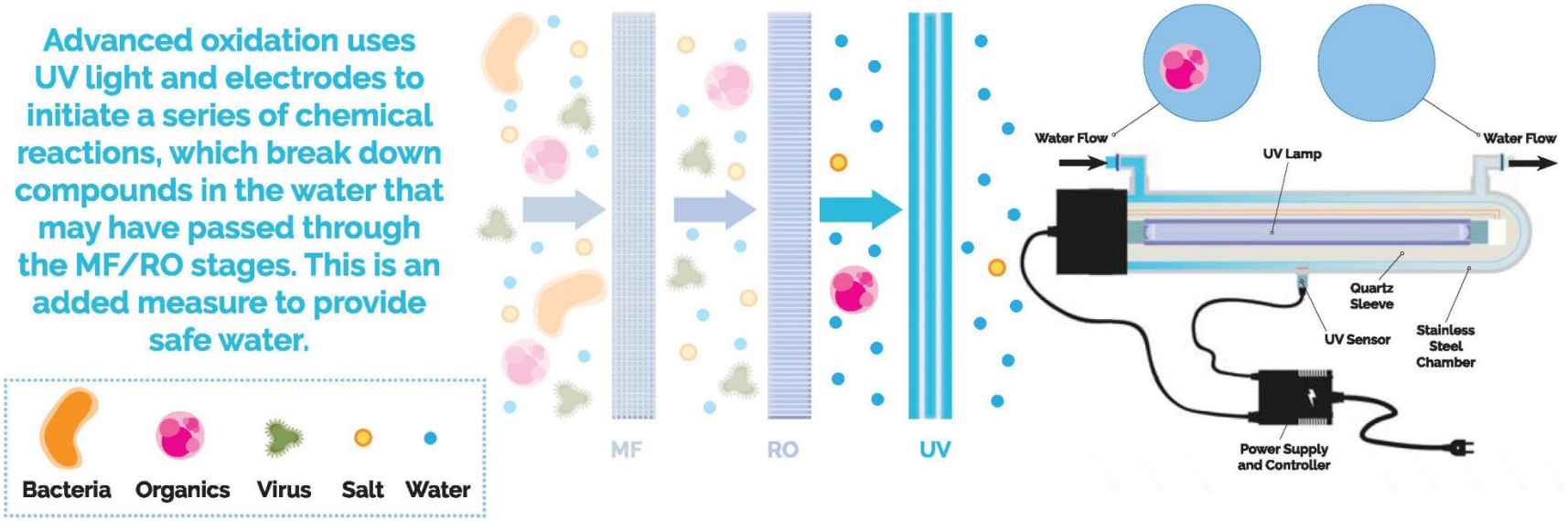
Source: Water Systems Consulting

Figure 2-9 Conceptual Reverse Osmosis Process Detail



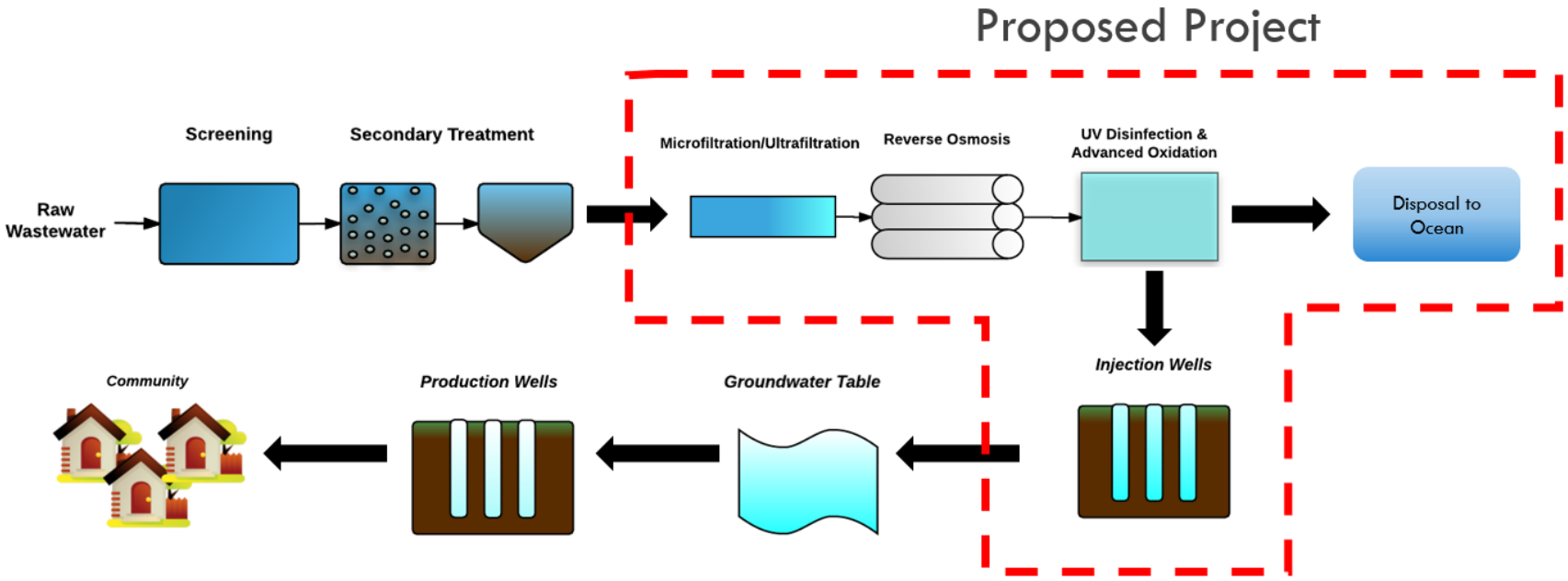
Source: Water Systems Consulting

Figure 2-10 Conceptual Ultraviolet/Advanced Oxidation Process Detail



Source: Water Systems Consulting

Figure 2-11 Conceptual Advanced Treatment Process



Groundwater Injection and Monitoring Wells

Seven injection wells would be installed at five locations throughout the NCMA, which are shown in Figure 2-3. The injection wells would be located generally within one-half mile of the coast and would each require approximately 3,000 square feet of land.[4] Each injection well would be approximately 12 inches in diameter and would be constructed of 316L stainless steel casing. Each injection well would be capable of injecting approximately 800 acre-feet per year (AFY). The advanced purified water would be injected at a depth of approximately 200 to 600 feet below ground surface. The injection well network would be accompanied by a network of nested monitoring wells at ten locations throughout the project area. Nested monitoring wells would each include two to three well casings constructed of polyvinyl chloride that would extend to varying depths up to 400 feet. Each monitoring well would have a surface footprint of approximately 25 square feet and would be equipped to measure and monitor water level and water quality. Injection wells would include aboveground piping and infrastructure such as electrical panels, control panels, and storage facilities that would be approximately six feet in height. Monitoring wells would be flush-mounted or encased in a protective casing that extends several feet above ground.

Injection well IW-4 and monitoring well MW-4A/4B will be initially constructed as test wells to conduct a preliminary investigation of the physical and technological constraints and opportunities in the project area. The purpose of this investigation is to gather data and information that may be used to modify the engineering design of the proposed project. As such, these wells were determined by the City to be categorically exempt from CEQA under CEQA Guidelines Section 15306, which exempts projects that are classified as basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. Therefore, construction of IW-4 and MW-4A/4B and the testing activities conducted via these wells were covered under previous environmental review and are not evaluated in this analysis. However, the long-term operational impacts of IW-4 and MW-4A/4B are addressed in this EIR.

Production Wells

Several existing production wells would be available for extraction of the injected advanced purified water. The project would involve increased pumping at these wells but would not involve modification of these existing production wells or any associated ground disturbance. Figure 2-3 shows the existing production wells that are anticipated to be used. In 2018, the NCMA agencies pumped approximately 764 AFY from the SMGB, which was approximately 18 percent of their total allocation for urban groundwater uses of 4,330 AFY (NCMA 2018). Under Phase I, the NCMA agencies would potentially increase groundwater pumping up to approximately 2,500 AFY, which would be a net increase of approximately 1,736 AFY over existing conditions. Under Phase II of the proposed project, the NCMA agencies would potentially increase groundwater pumping up to their full allocation for urban uses of 4,330 AFY, which would be a net increase of approximately 3,566 AFY over existing conditions. While the project would lead to increased groundwater pumping over recent rates, groundwater pumping will still be below historical (i.e., 2009) levels. For the past two decades, NCMA agencies have implemented monitoring and adaptive management strategies to evaluate groundwater supplies and respond to varying year-to-year climatic and groundwater conditions. To some extent, the project would alleviate climatic pressures on the SMGB by providing a reliable source of groundwater recharge. Nevertheless, this ongoing adaptive management program would continue to occur under

[4] This is a conservative assumption of the footprint of each injection well.

the proposed project and may include, but would not be limited to, modifying the quantities of water injected at each injection well, modifying or reducing the quantity of water extracted from NCMA production wells, and modifying which NCMA production wells are extracting water in response to varying year-to-year climatic and groundwater conditions.

One new production well would be constructed by the City to optimize the system, but the precise location of that new well has not been determined at this time. The new production well likely would be in Grover Beach, on land leased or acquired by the City, and would require approximately 3,000 square feet of land.[5] The City would own and operate this new production well. The characteristics of the new production well, which would be approximately 14 inches in diameter and 300 to 600 feet in depth, would be similar to those of the City's existing production wells. The new production well would include aboveground components typical of production wells, including piping, control systems, a sunshade, storage facilities, a pump and motor, and security fencing/walls. The well pump would be submersible and would therefore not generate substantial noise.

Agricultural Irrigation

A portion of water from the ATF complex may be used for agricultural irrigation. Potential agricultural irrigation areas include agricultural lands located in Grover Beach and generally south of Oceano. If agricultural irrigation is included in the proposed project, additional distribution pipelines would be constructed to carry recycled water from the ATF complex to the irrigated lands. Secondary effluent treated for use in agricultural irrigation would only go through MF/UF treatment and would not pass through the RO or UV disinfection/advanced oxidation processes.

Construction Activities

Project construction would occur in two main phases. Phase I would include construction of five injection wells (IW-1, IW-2A, IW-3, IW-4, and IW-5A), the water distribution pipelines, and the ATF complex with its initial production capacity (1.0 mgd of produced water) designed to treat flows from the Pismo Beach WWTP. Phase II would include construction of the remaining two injection wells (IW-2B and IW-5B), installation of approximately 40 feet of additional water distribution pipelines to connect these injection wells to the water distribution pipelines constructed under Phase I, construction of the agricultural irrigation pipelines, and expansion upgrades to the ATF complex to achieve its final production capacity (3.9 mgd of produced water). It is unknown at this time whether the new production well would be constructed under Phase I or II. Construction of the project components with known locations is anticipated to last approximately 24 months. During the construction period, portions of the project area, such as select areas of the Coastal Dunes RV Park and Campground and parts of public roadway rights-of-way, would be closed to public access.

Construction of the project components is not expected to result in removal of large numbers of mature trees, although some trees would likely be removed at the ATF complex location. Also, the project would include planting trees for accenting, screening, or other purposes as space allows, with a preference for native trees.

Injection, Monitoring, and Production Wells

Construction activities would occur from 7:00 a.m. to 7:00 p.m., Monday through Friday except for a three-week period for each well, during which well drilling activities would occur for 24 hours per day, Monday through Sunday. Temporary lighting would be required during 24-hour drilling activities and

[5] This is a conservative assumption of the footprint of the production well.

would consist of several lights adhered to the mast of the drill rigs that would be pointed downward and portable lights that would be placed around the working areas.

Construction equipment would include a drilling rig, a gradall forklift, four diesel-powered generators, a compressor, and a backhoe. Additional construction components would include a pipe trailer, water storage tanks, a tool trailer for supply storage, a mud tank, and a roll-off bin. Construction equipment would be up to 50 feet in height. Approximately seven construction workers would be on the project site at any given time. Wells would be drilled up to a depth of approximately 600 feet. Approximately 553 cubic yards of soil would be excavated and exported during well drilling activities.[6]

Project construction would require groundwater pumping activities during well development at a rate of approximately 100 to 300 gallons per minute (gpm) for the monitoring wells and 100 to 1,500 gpm for the injection wells. Well development would produce approximately 300,000 gallons (0.9 acre-feet) of water per monitoring well and approximately 3,500,000 gallons (10.8 acre-feet) of water per groundwater well. Groundwater produced during well development would be disposed of via connections to the existing Pismo Beach WWTP discharge pipeline that runs below SR 1.

Water Distribution Pipelines

Construction methods for the proposed pipelines would predominantly involve open trenching, with augur boring or horizontal directional drilling methods used as needed. Trenches would be excavated to approximately six feet in depth and would be backfilled after pipeline installation.

ATF Complex

To accommodate the ATF complex, the existing pavement and fencing at the location of the ATF complex would be removed. In addition, the location of the ATF complex would likely need to be graded to provide a level base for the ATF and appurtenant structures, to provide site access, and to provide appropriate stormwater drainage. It is assumed a moderate amount of existing soil would be excavated and exported and a moderate amount of clean engineered fill or another suitable substrate would be imported to provide geotechnical stability for the ATF complex. Approximately 1,451 cubic yards of soil export would also be required to accommodate the underground advanced purified water storage tank.[7] Excavation depth is not anticipated to exceed 20 feet.

Site Access

Site access at the ATF complex would be provided via an entrance gate or gates through the ATF complex fencing. Construction of the project components, including the water distribution pipelines and the injection and monitoring wells, would result in temporary access restrictions along public roadways throughout the project area.

Operation and Maintenance

The proposed project would require approximately 15 employees, including operators, electricians, mechanics, and administrative staff, that would work at the ATF complex. Operation and maintenance of the injection, monitoring, and production wells would require weekly visits for inspections, monitoring of pressures, cleaning out well casings, removing microbial build-up, and backflushing. Operation and maintenance of the pipelines would require inspections of pipeline and exercising

[6] Assumes a swell factor of 1.5.

[7] When soil is excavated, it typically swells to a greater volume because it is no longer compressed and has more air pockets than in its natural state. The percentage increase in volume is known as the swell factor. This analysis conservatively assumes a swell factor of 1.5.

valves every six months. Chemical deliveries to the ATF complex would occur approximately eight times per month.

Construction of IW-2A, IW-2B, IW-3, and IW-4 could preclude use of up to two campsites per injection well in the Coastal Dunes RV Park and Campground. To compensate for this impact, the City would negotiate a cost agreement with the County of San Luis Obispo Parks and Recreation Department to offset lost revenue from these campsites.

2.9 Surrounding Land Uses and Setting

Table 2-3 summarizes the surrounding land uses for each of the project components with known locations.

Table 2-3 Surrounding Land Uses for Project Components with Known Locations

Project Component	Direction	Land Use
ATF Complex and MW-3D/3E	North	Industrial
	East	Industrial
	South	Undeveloped land with a eucalyptus tree grove (zoned Coastal Low-Density Residential)
	West	Industrial
Water Distribution Pipelines	North	Pismo State Beach/Oceano Lagoon, Oceano County Airport, Coastal Dunes RV Park and Campground, Industrial
	East	Residential, Oceano Park, Oceano County Airport, undeveloped land with a eucalyptus tree grove (zoned Coastal Low-Density Residential)
	South	Residential, SSLOCSD WWTP
	West	Pismo State Beach/Oceano Lagoon, Oceano Memorial Campground, Oceano County Airport, Residential, SSLOCSD WWTP, Industrial, Coastal Dunes RV Park and Campground
IW-1, IW-2A, IW-2B, IW-3, IW-4, MW-2A/2B/2C, and MW-4A/4B	North	Undeveloped land (zoned Coastal Visitor Serving), Coastal Dunes RV Park and Campground
	East	Union Pacific Railroad track, South 4th Street, Residential, Industrial
	South	Industrial and Coastal Dunes RV Park and Campground
	West	Pismo State Beach/Oceano Lagoon
IW-5A and IW-5B and MW-5A/5B/5C	North	SSLOCSD WWTP and Oceano County Airport
	East	Oceano County Airport and Arroyo Grande Creek
	South	Arroyo Grande Creek
	West	SSLOCSD WWTP

Project Component	Direction	Land Use
MW-1A/1B	North	Industrial
	East	Industrial, Manhattan Avenue
	South	Industrial
	West	Union Pacific Railroad track, Coastal Dunes RV Park and Campground
MW-1C/1D	North	Residential
	East	Residential
	South	Longbranch Avenue, Residential
	West	South 6th Street, Residential
MW-2D/2E/3F	North	South 5th Street
	East	Residential
	South	South 5th Street
	West	Residential
MW-3A/3B	North	South 4th Street
	East	Industrial
	South	South 4th Street
	West	Union Pacific Railroad track, Coastal Dunes RV Park and Campground
MW-4C/4D	North	Agricultural
	East	South 13th Street, church
	South	Industrial
	West	Agricultural
MW-5D/5E/5F	North	Oceano Depot
	East	Parking lot, undeveloped land
	South	Union Pacific Railroad track, industrial
	West	Union Pacific Railroad track, industrial

ATF = advanced treatment facility; IW = injection well; MW = monitoring well; SSLOCSD = South San Luis Obispo County Sanitation District; WWTP = wastewater treatment plant

2.10 Other Public Agencies Whose Approval is Required

Other agencies whose approval is potentially required include the United States Bureau of Reclamation, the United States Army Corps of Engineers (USACE), the United States Environmental Protection Agency (USEPA), the Federal Aviation Administration, the CDFW, the State Lands Commission, the CCC, the California Department of Parks and Recreation, the SWRCB Division of Funding Assistance and the Division of Drinking Water, the California Department of Water Resources, the Central Coast RWQCB, Caltrans, SSLOCSD, the County of San Luis Obispo, the City of Arroyo Grande, the City of Grover Beach, and OCSD.

Several partner agencies, potentially including the City, SSLOCSD, the County of San Luis Obispo, the City of Arroyo Grande, and the City of Grover Beach, may form a JPA at a future time. Should a JPA be formed for the purposes of project funding, management, and operation, that JPA likely would serve as a CEQA Responsible Agency for the proposed project.

3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed project. More detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4.0, *Environmental Impact Analysis*.

3.1 Regional Setting

The project area is in the city of Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano, which is a census-designated place. The project area is bound by the Pacific Ocean to the west, the Oceano Dunes State Vehicular Recreation Area and agricultural land to the south, the city of Arroyo Grande to the east, and U.S. Highway 101 and the city of Pismo Beach to the north. Figure 3-1 shows the location of the project area in the region.

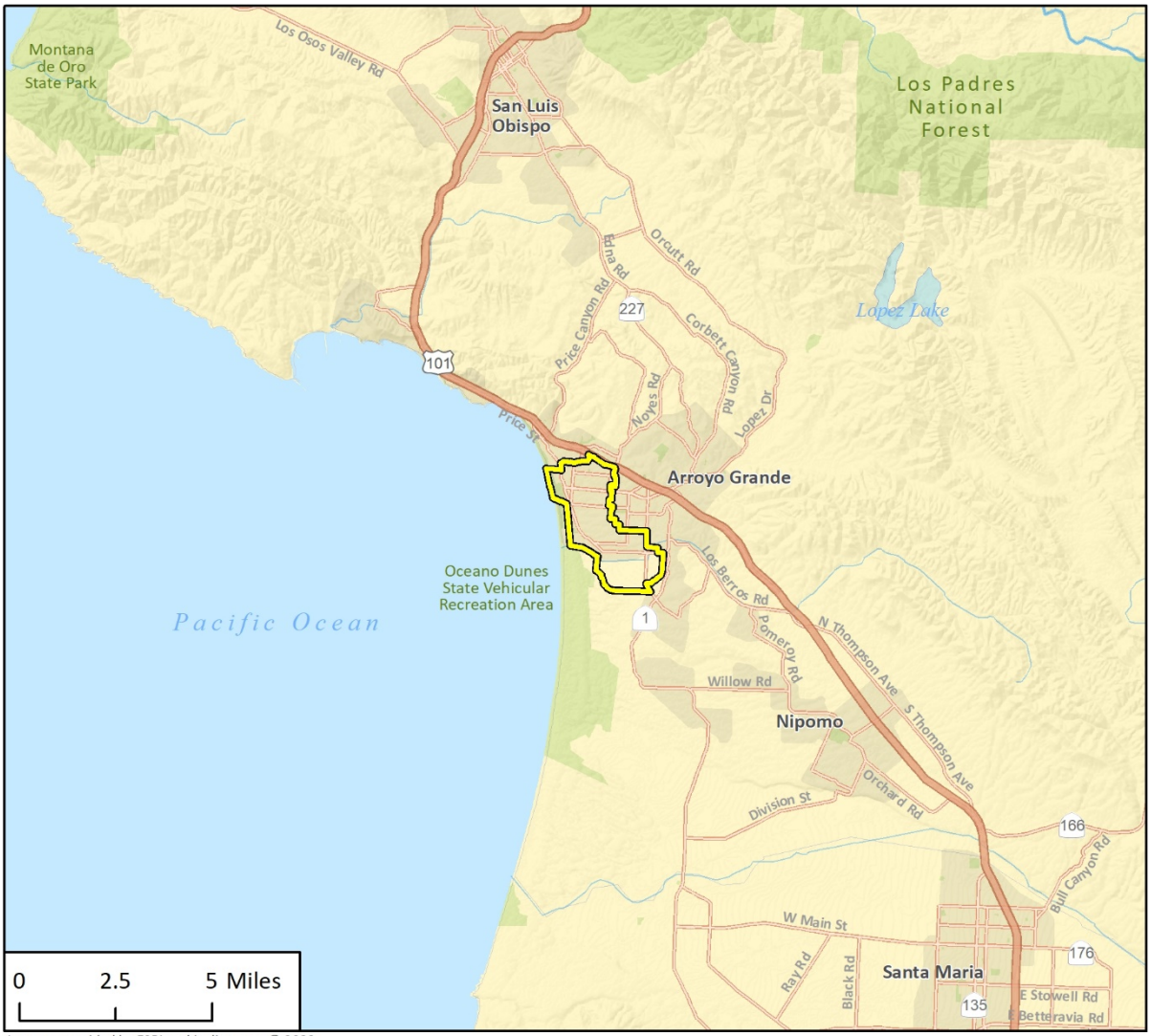
The Mediterranean climate of the San Luis Obispo County region and the coastal influence produce moderate average temperatures, although extreme temperatures can be reached in the winter and summer. Rainfall is concentrated in the winter months. The western portion of San Luis Obispo County, in which the project site is located, is in attainment for all federal air quality standards but is in nonattainment for the state 1-hour and 8-hour standards for ozone and the state 24-hour and annual standards for PM_{10} (particulate matter measuring 10 microns or less in diameter). The project area is located in the Pismo Creek and Arroyo Grande Creek watersheds, and the major surface water bodies in these watersheds are Pismo Creek, Pismo Creek Estuary, Meadow Creek, Oceano Lagoon, Arroyo Grande Creek, and Arroyo Grande Creek Estuary. The project area overlies the NCMA of the SMGB.

3.2 Project Area Setting

The project area is largely developed with urban land uses. Grand Avenue runs east-west along the northern edge of the project area and SR 1 and the Union Pacific Railroad tracks run north-south through the western portion and northwest-southeast through the southern portion. Major natural features include Pismo State Beach, Oceano Lagoon, and Arroyo Grande Creek. Major urban features include Oceano County Airport and the SSLOCSD WWTP. Figure 3-2 shows the location of the project area and project components with known locations in a local context and identifies features of interest within the project area, including parks, schools, hospitals, and major surface water bodies.

As discussed in Section 2.5, *Project Location*, of Section 2, *Project Description*, project components would be located in a variety of privately- and publicly-owned properties as well as several public roadway rights-of-way and parking lots. As summarized in Table 2-2 in Section 2, *Project Description,* these properties are designated for industrial, recreation, visitor-serving mixed-use, high-density residential, and quasi-public/public land uses. The new production well would be owned and operated by the City and likely would be located in Grover Beach on land leased or acquired by the City. Potential agricultural irrigation pipelines would likely be located within public rights-of-way, as feasible. These pipelines would also extend through Arroyo Grande Creek and through agricultural lands south of Oceano, where they would terminate at the agricultural properties to be irrigated.

Figure 3-1 Regional Project Area Setting



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Project Area

N

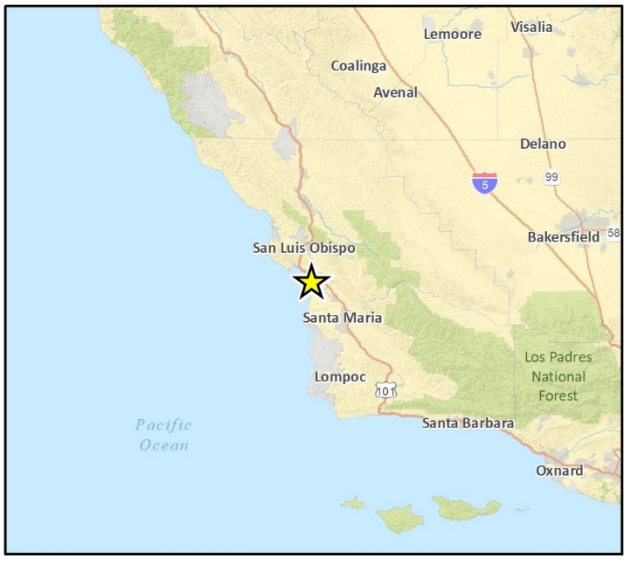
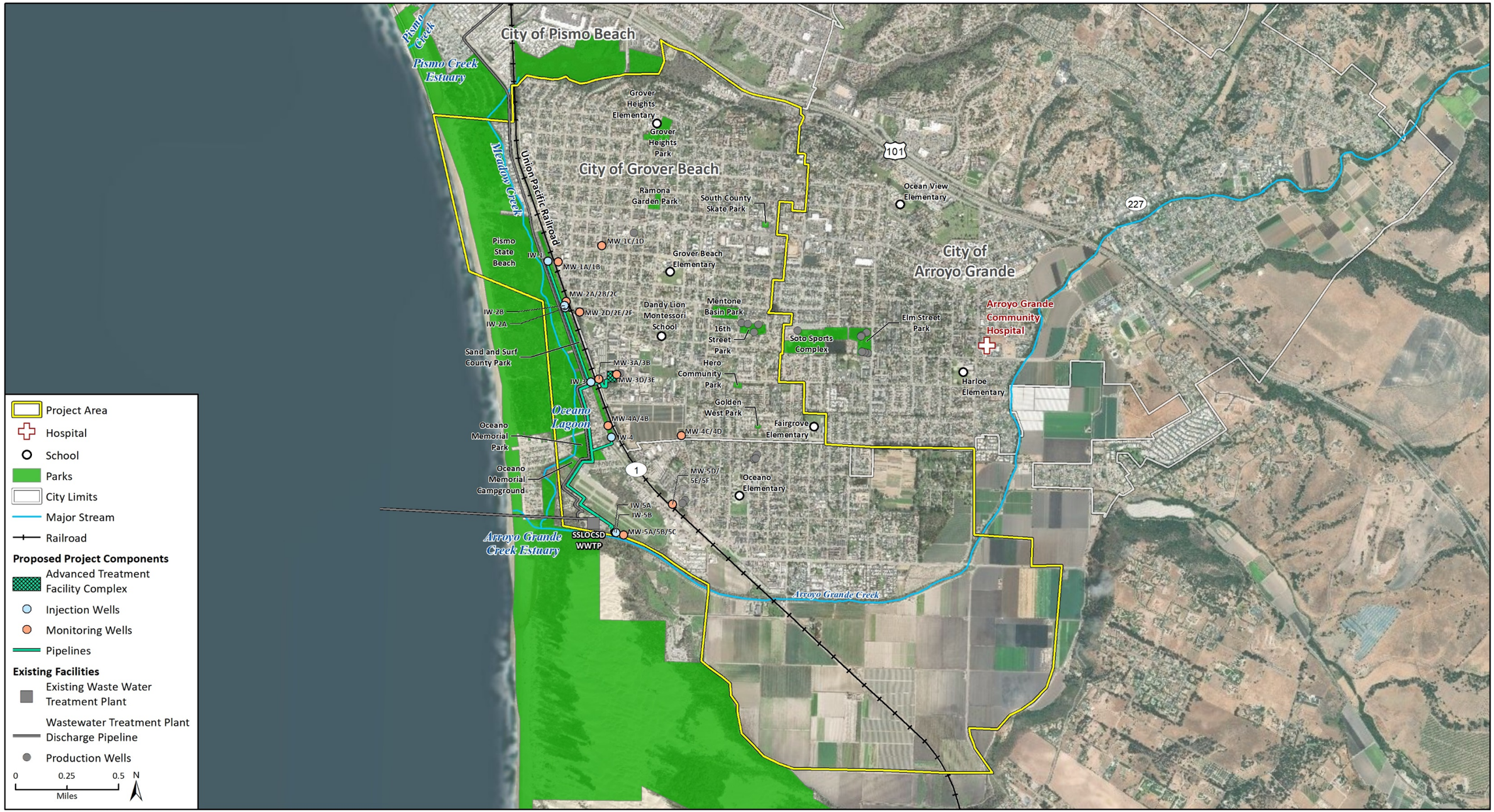


Fig 2-1 Regional Location

Figure 3-2 Project Area Setting



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Additional data provided by GreenInfo Network, 2018 & 2019 and U.S. Geological Survey, 2019.

Fig 3-2 Project Area Setting 11x17

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3.3 Cumulative Development

In addition to the specific impacts of individual projects, CEQA requires EIRs to consider potential cumulative impacts of the proposed project. CEQA defines "cumulative impacts" as two or more individual impacts that, when considered together, are substantial or will compound other environmental impacts. Cumulative impacts are the combined changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be less than significant when analyzed separately, but could have a significant impact when analyzed together. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

CEQA requires cumulative impact analysis in EIRs to consider either a list of planned and pending projects that may contribute to cumulative effects or a forecast of future development potential. Currently planned and pending projects in unincorporated San Luis Obispo County and the cities of Grover Beach, Arroyo Grande, and Pismo Beach are listed in Table 3-1 and shown in Figure 3-3. Table 3-1 also identifies which projects located within 500 feet of the known locations of project components. All projects listed in Table 3-1 are considered in the cumulative analyses in Section 4.0, *Environmental Impact Analysis*. In addition, this EIR analyzes cumulative impacts using summaries of projections contained in adopted local and regional plans or related planning documents, including the 2001 Clean Air Plan (San Luis Obispo County Air Pollution Control District [SLOAPCD] 2001) and the 2019 Regional Transportation Plan (San Luis Obispo Council of Governments [SLOCOG] 2019).

Table 3-1 Cumulative Projects List

Project No.	Project Location	Land Use	Status	Within 500 Feet of Project Components with Known Locations?
County of San Luis Obispo[1]				
1	Arroyo Grande Creek Channel	Waterway Management Program	Approved	No
2	2150 Cienaga Street	Mixed-use with 3 residential units and 775 sf of retail space	Approved	No
3	2241 Cienaga Street	2 single-family residences	Under review	No
4	2291 Cienaga Street	1 single-family residence	Under construction	No
5	1210 Pacific Boulevard	1 single-family residence	Under review	Yes – MW-4A/4B and water distribution pipelines
6	928 Pacific Boulevard (Pismo State Beach)	Demolition of existing 720-sf commercial building and construction of 1,022-sf office building	Approved	Yes – water distribution pipelines
7	2021 Nipomo Street	5,200 sf of commercial space	Approved	No
8	APNs 061-082-025 and -026 (100 feet northwest of the intersection of Maui Circle and Security Court)	Two single-family residences	Approved	Yes – water distribution pipelines
9	315 McCarthy Avenue	1 single-family residence	Under review	No
10	338 McCarthy Avenue	1 single-family residence	Approved	No
11	APN 061-012-033 (60 feet east of the intersection of Strand Way and McCarthy Avenue)	1 single-family residence	Under construction	No
12	344 Juanita Avenue	1 single-family residence	Approved	No
13	346 Juanita Avenue	1 single-family residence	Under construction	No
14	1358 Strand Way	1 single-family residence	Approved	No
15	1362 Strand Way	1 single-family residence	Approved	No
16	1850 Strand Way	1 single-family residence	Under review	No

Project No.	Project Location	Land Use	Status	Within 500 Feet of Project Components with Known Locations?
17	1555 Railroad Street	2,088-sf non-storefront dispensary for mobile delivery in an existing 4,176-sf building	Approved	No
18	1795 Front Street	2,729 sf of commercial space	Approved	No
19	1360 16th Street	1 secondary dwelling unit	Under review	No
20	1370 16th Street	Mobile home	Under review	No
21	2341 Ocean Street	Mobile home	Under review	No
22	2505 Terrace Sands Lane	1 single-family residence	Under review	No
23	2510 Terrace Sands Lane	1 single-family residence	Under review	No
24	2515 Terrance Sands Lane	1 single-family residence	Under review	No
25	2525 Terrace Sands Lane	1 single-family residence	Under review	No
26	2535 Terrace Sands Lane	1 single-family residence	Under review	No
27	2530 Terrace Sands Lane	1 single-family residence	Under review	No
28	2550 Terrace Sands Lane	1 single-family residence	Under review	No
29	2570 Terrace Sands Lane	1 single-family residence	Under review	No
30	1375-1377 Tamera Drive	2 single-family residences	Under review	No
31	628 Air Park Drive	1 single-family residence	Under review	Yes – water distribution pipelines
32	1637 Ocean Street	1 single-family residence	Under review	No
33	1458 14th Street	1 single-family residence	Under review	No
34	1991 21st Street	Mixed-use with 4 residential units, 1,562 sf of office space, and 951 sf of retail space	Under review	No
35	1574 Dower Avenue	1 single-family residence	Under review	No
36	1425 South 4th Street	Telecommunications infrastructure	Approved	No
37	2430 Wilmar Avenue	14 single-family residences	Under review	No

Project No.	Project Location	Land Use	Status	Within 500 Feet of Project Components with Known Locations?
City of Grover Beach[2]				
38	910 Huston Street	11,746 sf of industrial space	Under Construction	No
39	165 Saratoga Avenue	2 single-family residences	Under Construction	No
40	1598 El Camino Real	2 hotels with a total of 176 rooms and 7 single-family residences	In Process	No
41	55 West Grand Avenue	144-room hotel with restaurant and conference center	Approved	No
42	950 El Camino Real	134-room hotel	Approved	No
43	Huston Street	114,000 sf of industrial space	Approved	No
44	247 Newport Avenue	2 single-family residences	Under Construction	No
45	1176 Ramona Avenue	19 multi-family residential units	Under Construction	No
46	260 North 5th Street	2 multi-family residential units	Under Construction	No
47	1628 Laguna Court	Single-family residence	Under Construction	No
48	168 South 10th Street	Conversion of a portion of a commercial building to one residence	Under Construction	No
49	152 North 11th Street	4 multi-family residential units	Approved	No
50	172 North 13th Street	Conversion of a commercial building to residence	Under Construction	No
51	267 North 14th Street	3 single-family residences	Under Construction	No
52	Front Street	52,790 sf of industrial/commercial space in seven buildings (Grover Tech Center)	Approved	No
53	948 Huston Street	16,125 sf of industrial space	Approved	No
54	1071 Highland Way	Addition of 3,500 sf of industrial space and remodel of existing development	Approved	No
55	461 South 13th Street	7 multi-family residential units	Approved	No
56	273 Saratoga Avenue	4 single-family residences	Approved	No

Project No.	Project Location	Land Use	Status	Within 500 Feet of Project Components with Known Locations?
57	1207 South 13th Street	18 multi-family residential units	Under Construction	No
58	1616 Manhattan Avenue	Conversion of a commercial building to 2 residences	Approved	No
59	858 North 5th Street	Single-family residence	Approved	No
60	129 Sand Castle Court	Single-family residence	Approved	No
61	354 Front Street	Conversion of industrial building to live/work unit	Approved	No
62	773 Manhattan Avenue	2 residential units	Approved	No
63	234 Atlantic City Avenue	Single-family residence	Approved	No
64	1367 West Grand Avenue	Conversion of a portion of a commercial building to one residence	Approved	No
City of Arroyo Grande[3, 4]				
65	379 Alder Street	4 single-family residences	Under Construction	No
66	1029 Ash Street	8 single-family residences	Under Construction	No
67	Southwest Corner of East Grand Avenue and Courtland Street	36 residences and 15,600 sf of commercial spaces	Residential Completed, Commercial Pending	No
68	383 Alder Street	4 residential units	Pending	No
69	Fair Oaks Ave and Woodland Drive	50,000-sf medical office building	Under Construction	No
70	1177 Ash Street	4 residential units	Pending	No
71	159 Brisco Road	4 residential units	Approved	No
72	189 Brisco Road	4 residential units	Approved	No
73	382 Halcyon Road	23 residential units and 500-sf coffee shop	Approved	No
74	345 South Halcyon Road	4,975-sf hospital expansion	Under construction	No
75	236 South Halcyon Road	Mixed use development with 20 affordable units added to existing commercial space	Under construction	No

Project No.	Project Location	Land Use	Status	Within 500 Feet of Project Components with Known Locations?
76	184 Brisco Road	8 residential units	Approved	No
77	1136 East Grand Avenue	22 residential units and commercial frontage	Approved	No
78	1214 East Grand Avenue and 181 North Elm Street	Mixed-use development with 10 residential units and 2,000 sf of commercial space	Approved	No
79	700 Oak Park Boulevard	2 drive-thru restaurants totaling 5,100 sf and 6,000 sf of office/retail space	Pre-Application	No
80	1250 Farroll Avenue	3-unit Planned Unit Development	Pre-Application	No
City of Pismo Beach[5]				
81	2900 Shell Beach Road	10 townhomes and 9 single-family residences	Under construction	No
82	2780 Shell Beach Road	4 single-family residences	Approved	No
83	2201 Shell Beach Road	14 townhomes	Approved	No
84	2121 Price Street	97-room hotel (net increase of 74 rooms)	Pending	No
85	591 Five Cities Drive	Gas station with four fueling pumps	Pending	No
86	855 North 4th Street	50 multi-family residential units	Approved	No
87	110 Oak Park Boulevard	105-room hotel	Approved	No
88	900 Price Street	Mixed-use development with four residential units and retail space	Pending	No
89	401 Shell Beach Road	Mixed-use development with four vacation rental units and retail space	Pending	No
South San Luis Obispo County Sanitation District				
90	1600 Aloha Place	Wastewater Treatment Redundancy Project (installation of new equipment and associated piping, instrumentation, and electrical systems, construction of one building, rehabilitation of existing equipment, installation of a new flood barrier, and elevation of existing flood gates)	Approved	Yes – IW-5A, IW-5B, MW-5A/5B/5C, and water distribution pipelines

Project No.	Project Location	Land Use	Status	Within 500 Feet of Project Components with Known Locations?

sf = square feet; IW = injection well; MW = monitoring well

[1] Source: County of San Luis Obispo *Land Use Viewer* tool. Includes all active minor use, conditional use, subdivision, zoning clearance, and building permit applications from January 1, 2015 through December 30, 2019.

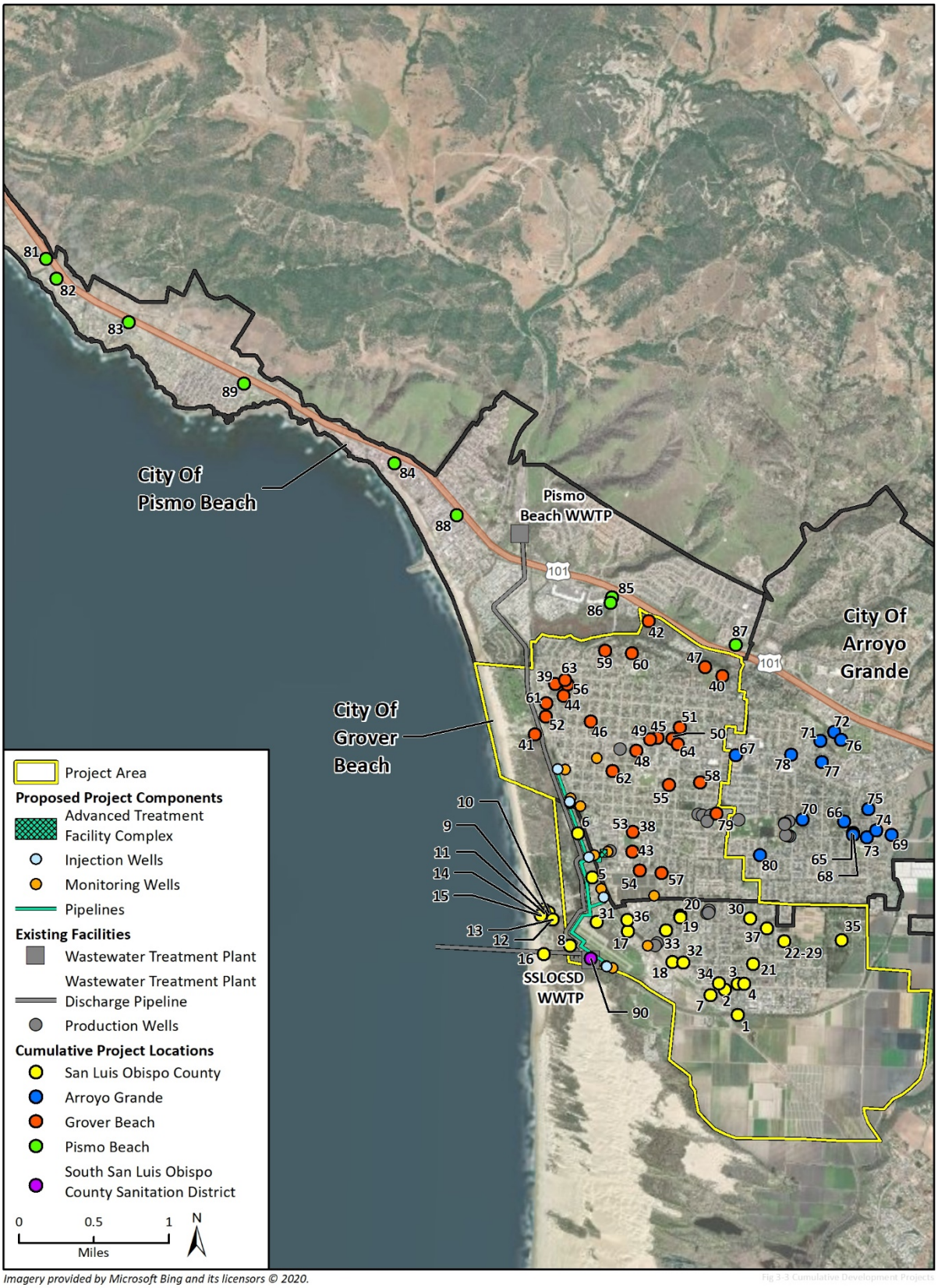
[2] Source: Buckingham 2020

[3] Source: Perez 2019

[4] Only includes projects east of Valley Road and south of U.S. Highway 101 because environmental impacts of these projects would be most likely to combine with those of the proposed project, which would be located in Grover Beach and Oceano, to create a cumulative impact.

[5] Source: Downing 2020

Figure 3-3 Cumulative Development Projects



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4 Environmental Impact Analysis

This section discusses the possible environmental effects of the Central Coast Blue Project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. "Significant effect" is defined by CEQA Guidelines Section 15382 as:

> …a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the City and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsections describe each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable**. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated**. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the CEQA Guidelines.
- **Less than Significant**. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis in each section concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3.0, *Environmental Setting*. The Executive Summary of this EIR summarizes all impacts and mitigation measures that apply to the proposed project.

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4.1 Air Quality

This section of the EIR identifies and evaluates issues related to air quality in the context of the proposed project. It describes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used to evaluate these impacts, and the results of the impact analysis. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.1.1 Setting

a. Climate and Topography

The project area is in the South Central Coast Air Basin, which includes all of San Luis Obispo, Santa Barbara, and Ventura Counties. The 2001 Clean Air Plan (2001 CAP) for San Luis Obispo County describes the air quality setting for the county in detail, including the local climate and meteorology, current and projected air quality, and the regulatory framework for the management of air quality. The climate of the South Central Coast Air Basin is strongly influenced by its proximity to the Pacific Ocean and the location of the semi-permanent high-pressure cell in the northeastern Pacific. The Mediterranean climate of the San Luis Obispo County region produces moderate average temperatures although extreme temperatures can be reached in the winter and summer. Rainfall is concentrated in the winter months. Local climate conditions for Pismo Beach (the closest city to the project area with available data) are shown in Table 4.1-1. As summarized therein, the warmest month of the year is September, and the coldest month of the year is January. The annual average maximum temperature is 68.2 degrees Fahrenheit (°F), while the annual average minimum temperature is 47.7°F.

Table 4.1-1 Pismo Beach Climate Conditions

Temperature Condition	Amount
Average annual rainfall	17.0 inches
Average annual maximum temperature	68.2°F
Average annual minimum temperature	47.7°F
Warmest month	September
Coolest month	January
Average annual mean temperature	58°F

°F = degrees Fahrenheit

Note: Averages are based on the period of record from July 1, 1949 to June 9, 2016 except for average annual mean temperature, which is based on the period of record from July 1, 1949 to October 31, 2012.

Source: Western Regional Climate Center 2012 and 2016

The region is subject to seasonal Santa Ana winds. Santa Ana winds are strong northerly to northeasterly winds that originate from high-pressure areas centered over the desert of the Great Basin. These winds are usually warm, dry, northerly winds which blow offshore at 15 to 20 miles per hour but can reach speeds of more than 60 miles per hour. Santa Ana winds are particularly strong in the mountain passes and at the mouths of canyons.

Two types of temperature inversions (warmer air on top of cooler air) are created in the area: subsidence and radiational. The subsidence inversion is a regional effect created by the Pacific high pressure system in which air is heated when it flows from high-pressure areas to the low-pressure areas inland and is compressed. This type of inversion generally forms at about 1,000 to 2,000 feet above mean sea level and can occur throughout the year, but it is most evident during the summer months. Radiational, or surface, inversions are formed by the more rapid cooling of air near the ground at night, especially during winter. This type of inversion is typically lower and is generally accompanied by stable air. Both types of inversions limit the dispersal of air pollutants within the regional airshed because more stable air conditions (i.e., low wind speeds and uniform temperatures) result in lower rates of pollutant dispersion.

b. Air Pollutants of Primary Concern

The general characteristics of the six criteria pollutants regulated by the federal Clean Air Act and California Clean Air Act are described below.

Ozone

Ozone (O_3) is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG).[1] NO_X are formed during the combustion of fuels, while ROG is formed during combustion and evaporation of organic solvents. Because O_3 requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to O_3 include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide

Carbon monoxide (CO) is a localized pollutant that is found in high concentrations only near its source. The major source of CO, a colorless, odorless, poisonous gas, is automobile traffic. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Carbon monoxide health effects are related to its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

[1] Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, two groups are important from an air quality perspective: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, ROG, ROC, and VOC). The SLOAPCD uses the term ROG to denote organic precursors.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of NO_X produced by combustion is nitric oxide, but nitric oxide reacts rapidly to form NO_2, creating the mixture of nitric oxide and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility. It can also contribute to the formation of PM_{10} and acid rain.

Suspended Particulates

Suspended particulates are mostly dust particles, nitrates, and sulfates. Small particulate matter measuring no more than 10 microns in diameter is PM_{10}, while fine particulate matter measuring no more than 2.5 microns in diameter is $PM_{2.5}$. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with PM_{10} and $PM_{2.5}$ can be very different. PM_{10} generally comes from windblown dust and dust kicked up from mobile sources. $PM_{2.5}$ is generally associated with combustion processes, as well as formation in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Sulfur Dioxide

Sulfur dioxide (SO_2) is included in a group of highly reactive gases known as "oxides of sulfur." The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore and the burning of fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Sulfur dioxide is linked with a number of adverse effects on the respiratory system.

Lead

Lead is a toxic metal that can be emitted from industrial sources, leaded aviation gasoline, and lead-based paint. Lead may cause a range of health effects, from behavioral problems and learning disabilities to seizures and death.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial

operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM; California Air Resources Board [CARB] 2019a). TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

c. Regulatory Setting

Federal and California Clean Air Acts

The federal and California Clean Air Acts regulate the emission of airborne pollutants from various mobile and stationary sources. The USEPA is the federal agency designated to administer air quality regulation, while the CARB is the state equivalent within the California Environmental Protection Agency. These agencies have established ambient air quality standards for the protection of public health. Local air quality management control and planning is provided through regional Air Pollution Control Districts (APCDs) established by the CARB for the 14 air basins statewide. The CARB is responsible for control of mobile emission sources, while the local APCDs are responsible for control of stationary sources and enforcing regulations. As stated above, the project area is located in the San Luis Obispo County portion of the South Central Coast Air Basin, which is under the jurisdiction of the SLOAPCD.

The USEPA and the CARB establish ambient air quality standards for major pollutants at thresholds intended to protect public health. Federal and state standards have been established for O_3, CO, NO_2, SO_2, lead, PM_{10}, and $PM_{2.5}$. Table 4.1-2 summarizes the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS) for each of these pollutants. California standards are more restrictive than federal standards for each of these pollutants, except for lead, the eight-hour average for CO, and the eight-hour average for O_3.

Table 4.1-2 Current Federal and State Ambient Air Quality Standards

Pollutant	Federal Standard	California Standard
Ozone	0.070 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.070 ppm (8-hr avg)
Carbon Monoxide	35.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)	20.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)
Nitrogen Dioxide	0.100 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.030 ppm (annual avg)
Sulfur Dioxide	0.075 ppm (1-hr avg) 0.5 ppm (3-hr avg) 0.14 ppm (24-hr avg) 0.030 ppm (annual avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)
Lead	0.15 μg/m^3 (rolling 3-month avg) 1.5 μg/m^3 (calendar quarter)	1.5 μg/m^3 (30-day avg)
Particulate Matter (PM_{10})	150 μg/m^3 (24-hr avg)	50 μg/m^3 (24-hr avg) 20 μg/m^3 (annual avg)
Particulate Matter ($PM_{2.5}$)	35 μg/m^3 (24-hr avg) 12 μg/m^3 (annual avg)	12 μg/m^3 (annual avg)
Visibility-Reducing Particles	No Federal Standards	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape. (8-hr avg)
Sulfates	No Federal Standards	25 μg/m^3 (24-hr avg)
Hydrogen Sulfide	No Federal Standards	0.03 ppm (1-hr avg)
Vinyl Chloride	No Federal Standards	0.01 ppm (24-hr avg)

ppm= parts per million; μg/m^3 = micrograms per cubic meter; hr = hour; avg = average

Source: SLOAPCD 2019a

In accordance with Section 109(b) of the federal Clean Air Act, the NAAQS established at the federal level are designed to be protective of public health with an adequate margin of safety. The NAAQS were designed to include an adequate margin of safety to be protective of those segments of the public most susceptible to respiratory distress, such as children under the age of 14, the elderly (over the age of 65), persons engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases. To derive these standards, the USEPA reviews data from integrated science assessments and risk/exposure assessments to determine the ambient pollutant concentrations at which human health impacts occur, then reduces these concentrations to establish a margin of safety (USEPA 2018). As a result, human health impacts caused by air pollutants may affect people when ambient air pollutant concentrations are at or above the concentrations established by the NAAQS. The closer a region is to attainting a particular NAAQS,

the lower the human health impact is from that pollutant (Brief for San Joaquin Valley Unified Air Pollution Control District 2018). Accordingly, ambient air pollutant concentrations below the NAAQS are considered protective of human health (CARB 2019b and 2019c). The NAAQS and the underlying science that forms the basis of the NAAQS are reviewed every five years to determine whether updates are necessary to continue protecting public health with an adequate margin of safety (USEPA 2015).

Ambient air pollutant concentrations are affected by the rates and distributions of corresponding air pollutant emissions, as well as by climactic and topographic influences. The primary determinant of concentrations of non-reactive pollutants (such as CO, PM_{10} and $PM_{2.5}$) is proximity to major sources. Ambient CO levels usually closely follow the spatial and temporal distributions of vehicular traffic. The SLOAPCD monitors criteria pollutant levels to ensure that air quality standards are met, and if they are not met, develops strategies to meet the standards. Depending on whether the standards are met or exceeded, the air basin is classified as being in "attainment" or "nonattainment." As of January 2019 (the last date that San Luis Obispo County's attainment status was updated), San Luis Obispo County is designated nonattainment for the state 1-hour and 8-hour standards for ozone and the state 24-hour and annual standards for PM_{10}. In addition, eastern San Luis Obispo County is designated nonattainment for the federal 8-hour ozone standard. However, as shown in Figure 4.1-1, the project area is located in the western portion of the county that is designated in attainment for this federal standard (SLOAPCD 2019a).[2]

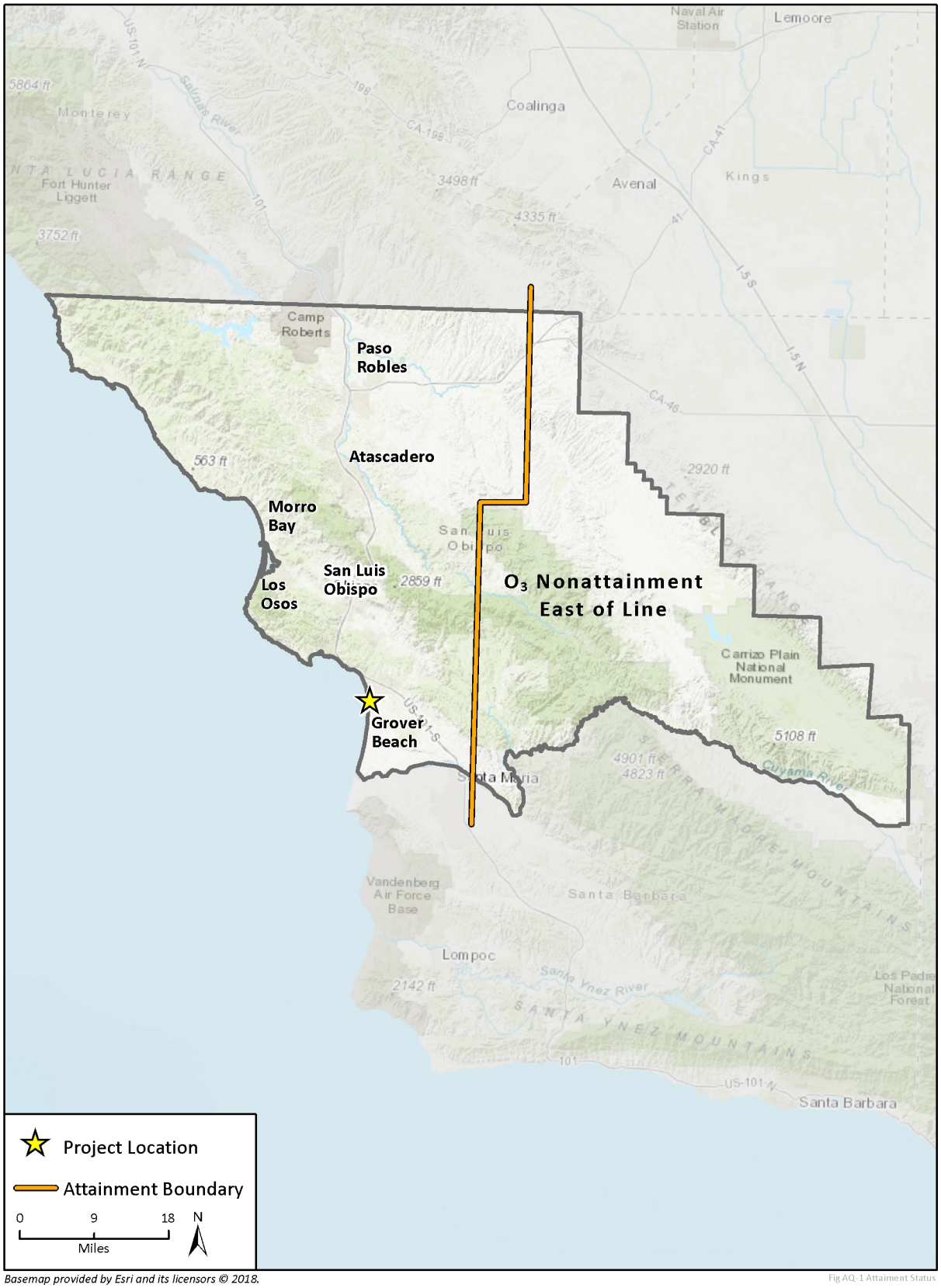
Federal General Conformity Rule

Section 176(c) of the federal Clean Air Act, as amended (42 United States Code [U.S.C.] 7401 et seq.) prohibits agencies of the Federal Government from engaging in, supporting, providing financial assistance to, or issuing permits for activities, which do not conform to an applicable State Implementation Plan. Requirements for preparation of State Implementation Plans are provided in Title 40 Code of Federal Regulations Part 51. The project sponsors will be applying for federal funding from the State Revolving Fund and other sources. In California, administration of the State Revolving Fund program has been delegated by the USEPA to the SWRCB. In turn, the SWRCB requires that all projects being considered under the State Revolving Fund program comply with certain federal environmental protection laws, including the federal Clean Air Act. The program by which a federal agency determines that its action would not conflict with air quality attainment plans is referred to as "general conformity." Therefore, the proposed project must demonstrate conformity to the applicable State Implementation Plan and consistency with the Clean Air Act General Conformity Rule.

The General Conformity Rule (Title 40 Code of Federal Regulations Part 51 Subpart W and Title 40 Code of Federal Regulations Part 93 Subpart B) requires federal agencies to ensure that actions taken by those agencies conform to the applicable State Implementation Plan. General Conformity regulations apply only to direct and/or indirect emissions caused by the actions that occur in areas designated as nonattainment or maintenance areas with respect to the NAAQS.

[2] The eastern portion of San Luis Obispo County that has been designated nonattainment for the federal 8-hour ozone standard consists of the region east of the -120.4 degree longitude line in areas of San Luis Obispo County that are south of the 35.45 degree latitude line and the region east of the -120.3 degree longitude line in areas of San Luis Obispo County that are north of the 35.45 degree latitude line.

Figure 4.1-1 Ozone Nonattainment Boundary in San Luis Obispo County



Basemap provided by Esri and its licensors © 2018.
Additional data provided by SLOAPCD, 2018.

Fig AQ-1 Attainment Status

These regulations require an applicability analysis to determine whether the federal action must be supported by a conformity determination. The applicability analysis is established for federal actions performed in locations with a history of non-compliance, as described below:

a. An area that is in nonattainment (i.e., has recorded violations of the NAAQS), and each criteria pollutant (such as ozone, carbon monoxide, and particulate matter) for which the area is designated as nonattainment area
b. An area designated as a nonattainment area but was later re-designated by the Administrator of the USEPA as an attainment area, and that is required to develop a maintenance plan under Section 7505a of 42 U.S.C. with respect to the specific pollutant for which the area was designated nonattainment

The applicability analysis involves calculation of the total direct and indirect emissions of criteria or precursor air pollutants during the years of construction and operation of the federal action. A conformity determination must be made if the annual emissions exceed the rates specified in 40 Code of Federal Regulations Part 93.153(b), referred to as *de minimis* thresholds. If the applicable emissions exceed the *de minimis* thresholds outlined in the General Conformity Rule, then the federal agency would prepare a General Conformity Determination for public comment.

San Luis Obispo County Air Pollution Control District 2001 Clean Air Plan

The SLOAPCD, the lead air quality regulatory agency for San Luis Obispo County, maintains comprehensive air quality programs for planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy of the SLOAPCD involves the preparation of plans and programs for the attainment of CAAQS and NAAQS, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The 2001 CAP for San Luis Obispo County, prepared by the SLOAPCD, contains a comprehensive set of control measures and a regulatory framework designed to reduce criteria air pollutants and precursors from both stationary and mobile sources. The SLOAPCD also inspects stationary sources to ensure they abide by permit requirements, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the federal and state Clean Air Acts (SLOAPCD 2001).

d. Current Air Quality

Table 4.1-3 summarizes the annual air quality data for the local airshed. The CARB maintains over 60 air quality monitoring stations throughout California, including two stations in San Luis Obispo County. Other monitoring stations in San Luis Obispo County are maintained by the SLOAPCD. The nearest monitoring station to the project area is the San Luis Obispo-3220 South Higuera St station, located at 3220 South Higuera Street in the city of San Luis Obispo, approximately 8.2 miles north of the project area. The pollutants monitored at this station are O_3, PM_{10}, and $PM_{2.5}$. Data for NO_2 was sourced from the Nipomo-Regional Park monitoring station, located at the intersection of West Tefft Street and Pomeroy Road in Nipomo, approximately 11.0 miles southeast of the project area. The data collected at these stations is generally representative of the baseline air quality experienced at the project area. Sulfur dioxide has not been monitored at any stations within San Luis Obispo County since 2012. The last recorded 24-hour average SO_2 value was 0.033 ppm at the Nipomo-Guadalupe Road station in Nipomo, which is below the state 24-hour standard of 0.14 ppm and the federal 24-hour standard of 0.04 ppm. Carbon monoxide has not been monitored at any stations within San Luis Obispo County since 2006. The last recorded 8-hour average CO value was

0.78 ppm at the San Luis Obispo-3220 South Higuera St monitoring station, which is below the state and federal 8-hour CO standard of 9.0 ppm (CARB 2019d).

Table 4.1-3 Ambient Air Quality Data

Pollutant	2016	2017	2018
Ozone (ppm), Worst Hour[1]	0.069	0.074	0.062
Number of days of state exceedances (>0.09 ppm)	0	0	0
Number of days of federal exceedances (>0.12 ppm)	0	0	0
Ozone (ppm), 8-Hour Average[1]	0.062	0.066	0.053
Number of days of state and federal exceedances (>0.07 ppm)	0	0	0
NO_2 (ppm), Worst Hour[2]	0.0270	0.0320	0.0250
Number of days of state exceedances (>0.18 ppm)	0	0	0
Number of days of federal exceedances (>0.10 ppm)	0	0	0
PM_{10} (μg/m³), Worst 24 Hours[1]	42.6	67.8	45.4
Number of days of state exceedances (>50 μg/m³)	0	5	0
Number of days of federal exceedances (>150 μg/m³)	0	0	0
$PM_{2.5}$ (μg/m³), Worst 24 Hours[1]	21.0	25.6	38.4
Number of days of federal exceedances (>35 μg/m³)	0	0	1

ppm = parts per million; μg/m³ = micrograms per cubic meter

[1] Data from San Luis Obispo-3220 South Higuera St monitoring station

[2] Data from Nipomo-Regional Park monitoring station

Source: CARB 2019d

The primary pollutants of concern in San Luis Obispo County are ozone and PM_{10}. As shown in Table 4.1-3, ozone concentrations did not exceed the state and federal ozone standards from 2016 to 2018, but PM_{10} concentrations exceeded the state 24-hour PM_{10} standard for five days in 2017 and $PM_{2.5}$ concentrations exceeded the federal 24-hour $PM_{2.5}$ standard for one day in 2018. No other exceedances of federal and state standards occurred.

The major local sources for PM_{10} in the region are agricultural operations, vehicle dust, grading, and dust produced by high winds. Ozone is a secondary pollutant that is not produced directly by a source, but rather is formed by a reaction between NO_X and ROG in the presence of sunlight. Reductions in ozone concentrations are dependent on reducing the atmospheric quantities of these precursors. In San Luis Obispo County, the major sources of ROG are motor vehicles, organic solvents, the petroleum industry, and pesticides; and the major sources of NO_X are motor vehicles, public utility power generation, and fuel combustion by various industrial sources (SLOAPCD 2001).

e. Sensitive Receptors

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. Standards are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. Therefore, the majority of sensitive receptor locations are residences, schools, and hospitals.

Sensitive receptors within and near the project area consist primarily of the residential neighborhoods in Oceano, Grover Beach, Arroyo Grande, and Pismo Beach. The nearest schools are Grover Heights Elementary School, Grover Beach Elementary School, Dandy Lion Montessori School, and Fairgrove Elementary School in Grover Beach; Oceano Elementary School in unincorporated San Luis Obispo County; and Ocean View Elementary School and Harloe Elementary School in Arroyo Grande. The nearest parks are the Coastal Dunes RV Park and Campground, Oceano Campground, Oceano Memorial Campground, Oceano Park, Pismo State Beach, and Oceano Dunes State Vehicular Recreation Area in unincorporated San Luis Obispo County; 16th Street Park, Grover Heights Park, Ramona Garden Park, South County Skate Park, Mentone Basin Park, Hero Community Park, and Golden West Park in Grover Beach; and the Soto Sports Complex, Elm Street Dog Park, and Kingo Park in Arroyo Grande. The nearest hospital to the project area is Arroyo Grande Community Hospital located to the east at 345 South Halcyon Road in Arroyo Grande.

Sensitive receptors nearest to the known locations of project components are the Coastal Dunes RV Park and Campground (in which five injection wells would be located), residential neighborhoods in Oceano and Grover Beach, Pismo State Beach, Oceano Campground, Oceano Memorial Campground, Oceano Park, and Oceano Dunes State Vehicular Recreation Area.

f. Odors

The *CEQA Air Quality Handbook* (SLOAPCD 2012a) identifies multiple sources that may cause odors including, but not limited to, wastewater treatment plants, landfills, composting facilities, petroleum refineries, and chemical manufacturing. The main objectionable odor released from wastewater treatment plants is associated with hydrogen sulfide, which emits an odor similar to rotten eggs. The nearest land use that may generate odor in the project area is the SSLOCSD WWTP, which is located on the western portion of the project area.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Construction and operational emissions for the ATF complex and injection/monitoring/production wells were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. CalEEMod was developed by the South Coast Air Quality Management District and is used by jurisdictions throughout the state to quantify criteria pollutant emissions. Construction emissions associated with the water distribution and agricultural irrigation pipelines were estimated using the Roadway Construction Emission Model (RCEM), version 9.0. RCEM was developed by the Sacramento Metropolitan Air Quality Management District to calculate emissions from linear projects such as roadways, levees, or pipelines. Emissions from each of the four major project components (i.e., injection/monitoring/production wells, water distribution pipelines, agricultural irrigation pipelines, and ATF complex) were modeled separately. For the purposes of modeling, the analysis relied upon the following conservative assumptions:

- **General**
  - During Phase I of construction, up to two injection/production wells and four monitoring wells would be constructed simultaneously at any given time.
  - During Phase I of construction, all project components would have overlapping construction schedules with four active construction sites at any given time (two

injection/production/monitoring well locations, one water distribution pipeline location, and the ATF complex location).

- During Phase II of construction, the remaining two injection wells and their associated water distribution pipeline connections (approximately 40 linear feet of pipeline) and the agricultural irrigation pipelines would be constructed simultaneously for a total of three active construction sites at any given site (two injection well locations and one agricultural irrigation pipeline location).
- Project construction would begin in January 2021.[3]
- Haul trucks would have a capacity of 16 cubic yards (CY) for the injection/monitoring/production wells and ATF complex (CalEEMod default value) and a capacity of 20 CY for the pipelines (RCEM default value).
- Approximately 10 construction workers would be at each construction site per day.
- All construction staging would occur on site.
- Approximately 15 persons would be employed to operate and maintain the proposed project.
- Project contractors would comply with SLOAPCD Rule 433, which specifies a volatile organic content limit of 100 grams per liter for flat coatings and 150 grams per liter for non-flat coatings.
- Operation and maintenance trips would be approximately 20 miles round trip to visit all wells and pipeline and exercising valves, assuming that the new production well is located on the easternmost edge of Grover Beach and the agricultural irrigation pipelines extend to the southernmost and easternmost parts of the agricultural lands south of Oceano.

- **Injection, Monitoring, and Production Wells**
  - Six injection wells, nine monitoring wells, and one production well would be constructed.[4]
  - Each injection and production well would have a permanent footprint of approximately 3,000 square feet.
  - Each monitoring well would have a permanent footprint of approximately 25 square feet.
  - Approximately 79 CY of soil per injection and production well would be excavated and exported during well drilling activities (i.e., a total of 553 CY).[5]
  - Well construction activities would occur over the course of approximately five months for each set of one injection/production well and two monitoring wells.
  - Each set of one injection/production well and two monitoring wells would require a three-week period of well drilling activities during which construction activities would occur for 24 hours a day, seven days a week.

[3] It is unknown at this time when project construction will begin. However, the assumption that construction will commence in January 2021 is a conservative assumption because construction equipment is anticipated to become more efficient and generate fewer air pollutant emissions over time. Therefore, assuming the use of the least-efficient equipment possible results in reasonable worst-case construction emissions.

[4] As discussed in Section 2, *Project Description*, construction of IW-4 and MW-4A/4B were determined by the City to be categorically exempt from CEQA under CEQA Guidelines Section 15306. Therefore, the construction impacts of IW-4 and MW-4A/4B are not included in this analysis.

[5] When soil is excavated, it typically swells to a greater volume because it is no longer compressed and has more air pockets than in its natural state. The percentage increase in volume is known as the swell factor. This analysis conservatively assumes a swell factor of 1.5.

- Produced groundwater would be disposed of via connections to the City's existing ocean outfall pipeline that runs under State Route 1.
- Operation and maintenance of the injection, monitoring, and production wells would require weekly visits for inspections, monitoring, and backflushing.
- Increased groundwater pumping would require approximately 2,560 megawatt-hours of electricity.[6]

- **Water Distribution Pipelines**
  - Approximately 18,000 linear feet of water distribution pipelines would be installed, and pipeline trenches would be up to approximately three feet in width and six feet in depth (i.e., a total of 54,000 square feet of surface area would be disturbed with a total trench volume of 324,000 cubic feet).
  - Demolition of approximately 1,000 CY of pavement would be required.[7]
  - Pipeline construction activities would occur over the course of approximately six months.
  - Most pipeline construction activities would occur via open cut trenching with horizontal directional drilling or jack and bore methods used as needed (e.g., to cross the Union Pacific Railroad track).
  - Approximately 18,000 CY of soil would be exported.[8]
  - Approximately 11,869 CY of soil would be imported.[9]
  - Upon completion of construction activities, disturbed roadways would be re-paved.
  - Operation and maintenance of the pipelines would require semiannual inspections of pipeline and exercising valves.

- **Agricultural Irrigation Pipelines**
  - Demolition of approximately 2,222 CY of pavement would be required.[10]
  - Approximately 40,000 linear feet of agricultural irrigation pipelines would be installed, and pipeline trenches would be up to approximately three feet in width and six feet in depth (i.e., a total of 124,000 square feet of surface area would be disturbed with a total trench volume of 720,000 cubic feet).
  - Pipeline construction activities would occur over the course of approximately 12 months.

[6] Based on the City's existing Well #5, the average energy intensity for a groundwater production well is 718 kilowatt-hours of electricity per acre-foot of water pumped (Water Systems Consulting 2013). As discussed in Section 2, *Project Description*, the proposed project would result in a net increase in groundwater pumping of 3,566 AFY. Therefore, approximately 2,560,388 kilowatt-hours, or 2,560 megawatt-hours, would be required for increased groundwater pumping.

[7] 3 feet in trench width * 18,000 linear feet in trench length * 0.5 feet in depth (asphalt and road base).

[8] 3 feet in trench width * 18,000 linear feet in trench length * 6 feet in depth * 1.5 swell factor. This calculation conservatively assumes the maximum quantity of export by assuming that all pipelines would be 24 inches in diameter. In reality, pipeline diameters would range from 6 to 24 inches; therefore, it is likely that less soil export would be required. When soil is excavated, it typically swells to a greater volume because it is no longer compressed and has more air pockets than in its natural state. The percentage increase in volume is known as the swell factor. This analysis conservatively assumes a swell factor of 1.5.

[9] 324,000 cubic feet of excavated trench – (18,000 linear feet in pipeline length * π * (0.25 feet of pipeline radius)^2). This calculation conservatively assumes the maximum quantity of import by assuming all pipelines would be 6 inches in diameter and would be placed in a trench large enough to accommodate a 24-inch pipeline. In reality, smaller pipelines would be placed in narrower and shallower trenches than larger pipelines; therefore, it is likely that less soil import would be required.

[10] 3 feet in trench width * 40,000 linear feet in trench length * 0.5 feet in depth (asphalt and road base). This is a conservative estimate given that the majority of agricultural irrigation pipelines would be installed below unpaved surfaces.

- Most pipeline construction activities would occur via open cut trenching with horizontal directional drilling or jack and bore methods used as needed (e.g., to cross Arroyo Grande Creek).
- Approximately 40,000 CY of soil would be exported.[11]
- Approximately 26,375 CY of soil would be imported.[12]
- Upon completion of construction activities, disturbed roadways would be re-paved.
- Operation and maintenance of the pipelines would require semiannual inspections of pipeline and exercising valves.

- **ATF Complex**
  - The ATF complex would be approximately 25,000 square feet in floor area.
  - Approximately 1,451 CY of soil would be exported to accommodate the underground advanced purified water storage tank.[13]
  - ATF complex construction activities under Phase I would require approximately 14 months to complete.
  - Phase II of construction would include expansion upgrades to the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.
  - Operation of the ATF complex would consume approximately 8,000 megawatt-hours of electricity per year.[14] This estimate of electricity usage assumes use of all advanced purified water for groundwater injection. If some secondary effluent is treated for use in agricultural irrigation, additional electricity would be required to pump recycled water to the agricultural lands because water would travel a greater distance than it would to the injection wells and the flow rate would be increased in order to deliver the same volume of water during a shorter timeframe. However, secondary effluent would only go through MF/UF treatment and would not pass through the RO or UV/advanced oxidation processes, which constitute most electricity demand associated with the treatment processes. Therefore, treating a portion of secondary effluent via MF/UF and pumping the recycled

[11] 3 feet in trench width * 40,000 linear feet in trench length * 6 feet in depth * 1.5 swell factor. This calculation conservatively assumes the maximum quantity of export by assuming that all pipelines would be 24 inches in diameter. In reality, pipeline diameters would range from 6 to 24 inches; therefore, it is likely that less soil export would be required. When soil is excavated, it typically swells to a greater volume because it is no longer compressed and has more air pockets than in its natural state. The percentage increase in volume is known as the swell factor. This analysis conservatively assumes a swell factor of 1.5.

[12] 720,000 cubic feet of excavated trench – (40,000 linear feet in pipeline length * π * (0.25 feet of pipeline radius) ^{2}). This calculation conservatively assumes the maximum quantity of import by assuming all pipelines would be 6 inches in diameter and would be placed in a trench large enough to accommodate a 24-inch pipeline. In reality, smaller pipelines would be placed in narrower and shallower trenches than larger pipelines; therefore, it is likely that less soil import would be required.

[13] When soil is excavated, it typically swells to a greater volume because it is no longer compressed and has more air pockets than in its natural state. The percentage increase in volume is known as the swell factor. This analysis conservatively assumes a swell factor of 1.5.

[14] The estimate of electricity consumption is based on the following two sources:

1. Preliminary engineering design for the pump station indicates that the pump station would require approximately 697,200 kilowatt-hours of electricity per year, which was conservatively rounded up to 700,000 kilowatt-hours, or 700 megawatt-hours, per year.
2. The *Final Environmental Impact Report for the Carpinteria Advanced Purification Project* estimated that operation of the proposed Carpinteria Valley Water District ATF and appurtenant structures (excluding the pump station) would require approximately 1,556,349 kilowatt-hours of electricity per year (Carpinteria Valley Water District 2019). At final capacity, the proposed project would process approximately 4.5 times more water than the Carpinteria Valley Water District ATF; therefore, operation of the proposed ATF and appurtenant structures (excluding the pump station) would require approximately 7,000,571 kilowatt-hours per year, which was conservatively rounded up to 7,300,000 kilowatt-hours, or 7,300 megawatt-hours, per year.

water to agricultural lands south of Oceano would require overall lower energy usage than purifying secondary effluent via the full treatment process and pumping the purified water to the injection wells (Water Systems Consulting 2017). As a result, if some recycled water is used for agricultural irrigation, this estimate of the project's electricity usage would be a conservative overestimate.

- Operation and maintenance of the ATF complex would require approximately eight chemical deliveries per month.

Significance Thresholds

CEQA Guidelines Appendix G Thresholds

In accordance with Appendix G of the CEQA Guidelines, an air quality impact would be significant if the proposed project would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard
- Expose sensitive receptors to substantial pollutant concentrations
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

SLOAPCD Thresholds

As stated in the CEQA Guidelines, the significance criteria established by the regional air quality management or air pollution control district may be relied upon to make significance determinations. In 2009, the SLOAPCD adopted guidelines for assessment and mitigation of air quality impacts under CEQA. The *CEQA Air Quality Handbook*, which was updated in 2012 and 2017 (SLOAPCD 2012 and 2017), is an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality issues in environmental documents. The *CEQA Air Quality Handbook* also includes standard construction and operational mitigation measures that may be applied to projects that exceed SLOAPCD thresholds. The SLOAPCD recommended significance criteria are described in its *CEQA Air Quality Handbook* (2012) and Clarification Memorandum (2017) and are included below.

CONSISTENCY WITH 2001 CAP

The SLOAPCD *CEQA Air Quality Guidelines* state that a CAP consistency analysis is required for a program-level environmental review, such as General Plan Updates and Amendments, Specific Plans, Regional Transportation Plans and Area Plans, and may be necessary for a project-level environmental review for subdivisions, large residential developments, and large commercial/industrial developments. These types of programs and projects all have the potential to conflict with or obstruct implementation of the 2001 CAP because they have the potential to induce significant population growth and/or generate significant increases in vehicle miles traveled (VMT).

CONSTRUCTION EMISSIONS

The SLOAPCD has developed specific daily and quarterly numeric thresholds that apply to project construction activities within the portion of the South Central Coast Air Basin under its jurisdiction, which are summarized in Table 4.1-4.

Table 4.1-4 SLOAPCD Construction Emissions Significance Thresholds

Pollutant	Daily Threshold (lbs/day)	Quarterly Threshold (tons/year) Tier 1	Quarterly Threshold (tons/year) Tier 2
ROG + NO_X (combined)	137[1]	2.5[2]	6.3[3]
DPM	7[1,4]	0.13[2]	0.32[3]
Fugitive Particulate Matter (PM_{10}), Dust	n/a	2.5[5]	n/a

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; PM_{10} = particulate matter measuring 10 microns in diameter or less; n/a = not applicable

[1] Exceedance requires implementation of Standard Mitigation Measures.

[2] Exceedance requires implementation of Standard Mitigation Measures and Best Available Control Technology for construction equipment. Off-site mitigation for ROG + NO_X may be required if feasible mitigation measures cannot be implemented, or if no mitigation measures are feasible.

[3] Exceedance requires implementation of Standard Mitigation Measures, Best Available Control Technology, a Construction Activity Management Plan, and off-site mitigation.

[4] Only for construction projects expected to be completed in less than one quarter.

[5] Exceedance requires implementation of Standard Fugitive PM_{10} Mitigation Measures and may require implementation of a Construction Activity Management Plan. The SLOAPCD states that any project with a grading area greater than 4.0 acres of disturbed area has the potential to exceed this threshold.

Source: SLOAPCD 2012

OPERATIONAL EMISSIONS

The SLOAPCD's long-term operational emission thresholds are summarized in Table 4.1-5.

Table 4.1-5 SLOAPCD Operational Emissions Significance Thresholds

Pollutant	Daily Thresholds[1] (lbs/day)	Annual Thresholds[1] (tons/year)
ROG + NO_X (combined)[2]	25	25
DPM[2]	1.25	n/a
Fugitive Particulate Matter (PM_{10}), Dust	25	25
CO	550	n/a

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; PM_{10} = particulate matter measuring 10 microns in diameter or less; CO = carbon monoxide; n/a = not applicable

[1] The SLOAPCD specifies that daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 and the CARB Carl Moyer Guidelines for DPM.

[2] The SLOAPCD specifies that CalEEMod winter emission outputs should be compared to operational thresholds for these pollutants.

Source: SLOAPCD 2012

General Conformity Thresholds

The USEPA General Conformity Rule ensures that actions taken by federal agencies in nonattainment and maintenance areas do not interfere with the State's plans to meet NAAQS. Title 40 Code of Federal Regulations Part 93.153 defines *de minimis* levels (the minimum threshold above which a conformity determination must be performed) for various criteria pollutants depending on whether the region is classified as nonattainment or maintenance and the degree of nonattainment

for ozone precursors. If the proposed project's annual emissions are below the applicable *de minimis* levels, the project is not subject to a general conformity determination.

San Luis Obispo County is designated marginally nonattainment for the federal 8-hour ozone NAAQS (SLOAPCD 2019c). The *de minimis* threshold for marginally nonattainment areas is 100 tons per year (USEPA 2017). However, only the eastern portion of San Luis Obispo County has been designated nonattainment, and as shown in Figure 4.1-1 in Section 4.1.1(c), *Regulatory Setting*, the project area is located in the western portion of the county, which is designated attainment. Therefore, no *de minimis* thresholds are applicable to the project area.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE 2001 CAP. NO IMPACT WOULD OCCUR.

The proposed project is a water infrastructure project that would not directly generate population growth through construction of housing or creation of substantial employment opportunities. The project would accommodate approximately 15 new employees; however, given the nature of the proposed project, it is likely that these employees would be drawn from the existing, local workforce and would not indirectly result in the relocation of people to Pismo Beach, Grover Beach, Arroyo Grande, or San Luis Obispo County. Furthermore, the project is intended to improve water supply reliability; create a sustainable, drought-resistant local water supply for southern San Luis Obispo County; and provide a new source of recharge to the Santa Maria Groundwater Basin to protect the basin from degradation via seawater intrusion. Therefore, the project would not indirectly induce population growth because it would not expand future water supplies but rather enhance and increase the resiliency of the existing water supply.

Project-related VMT would be associated with vehicle trips to and from the ATF complex by staff members arriving to and leaving from work, weekly maintenance trips to the injection/monitoring/production wells, semiannual maintenance trips to the pipeline monitoring valves, and biweekly chemical deliveries. Based on the CalEEMod analysis (see Appendix C), the project would result in annual VMT of 140,977 or an average daily VMT of 386 (annual VMT divided by 365 days per year), which would be an incremental amount (less than 0.01 percent) as compared to projected countywide 2035 average daily VMT of 6,500,544 under the 2019 Regional Transportation Plan's preferred scenario (SLOCOG 2019).

Given the above analysis, the project does not fall within the population-inducing and high-VMT-generating categories of programs and projects that would have the potential to conflict with or obstruct implementation of the 2001 CAP, such as General Plan Updates, Regional Transportation Plans, Area Plans, Specific Plans, subdivisions, large residential development and large commercial/industrial developments (SLOAPCD 2012). Furthermore, none of the transportation control measures and land use planning strategies contained in the 2001 CAP are applicable to the proposed project because they are primarily directed at residential, commercial, and mixed-use development projects. Accordingly, no impact would occur.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project 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?

Impact AQ-2 CONSTRUCTION OF THE PROJECT WOULD GENERATE TEMPORARY INCREASES IN CRITERIA AIR POLLUTANT EMISSIONS. CONSTRUCTION EMISSIONS OF ROG + NO_X WOULD EXCEED SLOAPCD CONSTRUCTION THRESHOLDS DURING PHASE I, AND IMPLEMENTATION OF MITIGATION MEASURES AQ-2(A) THROUGH AQ-2(B) WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction of the proposed project would generate temporary emissions of air pollutants. Ozone precursors (NO_X and ROG) as well as DPM would be emitted by the operation of construction equipment, while fugitive dust would be emitted by activities that disturb the soil, such as grading, excavation, and trenching. As described in Section 2, *Project Description*, construction activities would occur in two phases. Phase I would consist of the construction of five injection wells (IW-1, IW-2A, IW-3, IW-4, and IW-5A), the monitoring wells, the new production well, the water distribution pipelines, and the ATF complex. Phase II would include construction of the remaining two injection wells (IW-2B and IW-5B), approximately 40 feet of additional water distribution pipelines, the agricultural irrigation pipelines, and expansion upgrades to the ATF complex. The project's estimated maximum daily and quarterly emissions during Phase I of construction are summarized in Table 4.1-6 and Table 4.1-7. As shown therein, construction emissions during Phase I would exceed the SLOAPCD daily threshold for ROG + NO_X and the quarterly Tier 1 thresholds for ROG + NO_X. Therefore, air emission impacts from Phase I of construction would be potentially significant. Implementation of Mitigation Measures AQ-2(a) through AQ-2(b) would be required to reduce impacts to a less-than-significant level.

Table 4.1-6 Phase I Estimated Maximum Daily Construction Air Pollutant Emissions

Project Component	Maximum Daily Emissions (lbs/day) ROG + NO_X
Injection/Monitoring/Production Wells[1]	86.52
Water Distribution Pipelines	32.06
ATF Complex	72.44
Total	**191.02**
SLOAPCD Daily Threshold	137
Threshold Exceeded?	**Yes**

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; SLOAPCD = San Luis Obispo County Air Pollution Control District

Notes: All emissions modeling was completed using CalEEMod and RCEM. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data from CalEEMod is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] Emissions from construction of one injection well and associated monitoring wells were modeled, then multiplied by two to account for simultaneous construction of two wells at any given time during Phase I. See Appendix C for calculations.

Table 4.1-7 Phase I Estimated Maximum Quarterly Construction Air Pollutant Emissions

Project Component	ROG + NO_X (tons/quarter)	DPM (tons/quarter)	Dust (tons/quarter)
Injection/Monitoring/Production Wells[1, 2]	1.90	0.03[3]	0.02[4]
Water Distribution Pipelines[5]	0.77	0.03	0.01
ATF Complex[1]	1.31	0.06[3]	0.03[4]
Total Maximum Quarterly Emissions	**3.98**	**0.12**	**0.06**
SLOAPCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**Yes**	**No**	**No**
SLOAPCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; SLOAPCD = San Luis Obispo County Air Pollution Control District; N/A = not applicable; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

Notes: All emissions modeling was completed using CalEEMod and RCEM. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data from CalEEMod is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] CalEEMod calculates quarterly emissions of ROG+NO_X but does not calculate quarterly emissions for DPM and dust; therefore, maximum annual construction emissions of DPM and dust were divided by four to estimate maximum quarterly emissions.

[2] Emissions from construction of one injection/production well and two monitoring wells were modeled, then multiplied by two to account for simultaneous construction of two injection/production wells and four monitoring wells during any given quarter of Phase I.

[3] DPM estimates were derived from the "PM_{10} Exhaust" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2019a).

[4] Dust is equal to fugitive PM_{10} reported by CalEEMod.

[5] Maximum quarterly emissions were calculated using maximum daily emissions from the highest emissions-generating phases that would occur during the same quarter (excavation/shoring and installation). See Appendix C for calculations

The project's estimated maximum daily and quarterly emissions during Phase II of construction are summarized in Table 4.1-8 and Table 4.1-9. As shown therein, construction emissions during Phase II would exceed the SLOAPCD quarterly Tier 1 threshold for ROG + NO_X. Therefore, air emission impacts from Phase II of construction would be potentially significant. Implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would be required to reduce impacts to a less-than-significant level.

Table 4.1-8 Phase II Estimated Maximum Daily Construction Air Pollutant Emissions

Project Component	ROG + NO_X (lbs/day)
Injection Wells and Additional Water Distribution Pipelines[1, 2]	86.52
Agricultural Irrigation Pipelines	31.12
Total	**117.64**
SLOAPCD Daily Threshold	137
Threshold Exceeded?	**No**

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; SLOAPCD = San Luis Obispo County Air Pollution Control District

Notes: All emissions modeling was completed using CalEEMod. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data from CalEEMod is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] Emissions from construction of one injection well were modeled, then multiplied by two to account for simultaneous construction of both injection wells under Phase II. Phase II of construction would also include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

[2] Emissions from construction of the additional 40 feet of water distribution pipelines under Phase II would be within the emissions estimate for the injection wells because pipeline construction would be completed with similar equipment and within the five-month construction schedule assumed for the injection wells.

Table 4.1-9 Phase II Estimated Maximum Quarterly Construction Air Pollutant Emissions

Project Component	ROG + NO_X (tons/quarter)	DPM (tons/quarter)	Dust (tons/quarter)
Injection Wells and Additional Water Distribution Pipelines[1, 2, 3]	1.90	0.03[4]	0.02[5]
Agricultural Irrigation Pipelines[6]	1.03	0.04	0.01
Total Maximum Quarterly Emissions	**2.93**	**0.07**	**0.03**
SLOAPCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**Yes**	**No**	**No**
SLOAPCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; SLOAPCD = San Luis Obispo County Air Pollution Control District; N/A = not applicable; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

Notes: All emissions modeling was completed using CalEEMod. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data from CalEEMod is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] CalEEMod calculates quarterly emissions of ROG+NO_X but does not calculate quarterly emissions for DPM and dust; therefore, maximum annual construction emissions of DPM and dust were divided by the number of quarters undergoing construction in a year to estimate maximum quarterly emissions.

[2] Emissions from construction of one injection well were modeled, then multiplied by two to account for simultaneous construction of both wells under Phase II. Phase II of construction would also include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

[3] Emissions from construction of the additional 40 feet of water distribution pipelines under Phase II would be within the emissions estimate for the injection wells because pipeline construction would be completed with similar equipment and within the five-month construction schedule assumed for the injection wells.

[4] DPM estimates were derived from the "PM_{10} Exhaust" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2019a).

[5] Dust is equal to fugitive PM_{10} reported by CalEEMod.

[6] Maximum quarterly emissions were calculated using maximum daily emissions from the highest emissions-generating phase (installation), which would occur for an entire quarter. See Appendix C for calculations.

Mitigation Measures

AQ-2(a) Standard Control Measures for Construction Equipment

The following standard mitigation measures shall be implemented during Phases I and II of construction activities to reduce construction-related emissions of NO_X and ROG:

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel-powered equipment with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting the CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;

- 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 (e.g., captive or NO_X exempt area fleets) may be eligible by proving alternative compliance;
- All on- and off-road diesel equipment shall not idle for more than five minutes in accordance with California Code of Regulations Title 13, Section 2485 and Section 2449(d)(3) of the CARB's In-Use Off-Road Diesel Regulation. Signs shall be posted in the designated queuing areas and on job sites to remind drivers and operators of the five-minute idling limit;
- Electric-powered equipment shall be used when feasible;
- Gasoline-powered equipment shall be substituted in place of diesel-powered equipment, where feasible; and
- Alternatively fueled construction equipment shall be used on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.

AQ-2(b) Best Available Control Technology for Construction Equipment

The following Best Available Control Technology for diesel-fueled construction equipment shall be implemented during Phases I and II of construction activities to reduce construction-related emissions of NO_X and ROG:

- Tractors, loaders, backhoes, and forklifts used for construction of the wells
- All equipment used during the building construction phase of the ATF complex shall be equipped with minimum Tier 3 certified engines, and air compressors, drill rigs, and generators used during injection/monitoring/production well construction shall be equipped with minimum Tier 4 Final certified engines;
- Repower older off-road equipment with Tier 3 and Tier 4 engines where feasible;
- Utilize heavy-duty trucks meeting the standards of the CARB's Truck and Bus Regulation for on-road heavy-duty diesel engines, which requires nearly all trucks to have 2010 or newer model year engines; and
- Install California Verified Diesel Emission Control Strategies on construction equipment. Examples include, but are not limited to, diesel particulate filter systems, Purifilter Engine Control Systems, diesel retrofit systems, and Sootfilter systems.

Significance After Mitigation

According to the SLOAPCD (2012) *CEQA Air Quality Handbook,* for projects with estimated construction emissions that are expected to exceed the SLOAPCD daily thresholds of significance and the SLOAPCD quarterly Tier 1 thresholds of significance, implementation of standard and Best Available Control Technology measures would reduce potential air quality impacts to a less-than-significant level. These measures are required for both phases of construction activities. As shown in Table 4.1-10 and Table 4.1-11, implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would reduce construction-related emissions of ROG + NO_X below the SLOAPCD daily and quarterly thresholds during both Phase I and II. As a result, implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would reduce construction-related air quality impacts during Phases I and II of construction to a less-than-significant level.

Table 4.1-10 Mitigated Phase I Maximum Daily Construction Air Pollutant Emissions

Project Component	ROG + NO_X (lbs/day)
Injection/Monitoring/Production Wells[1, 2]	26.84
Water Distribution Pipelines	32.06
ATF Complex	72.01
Total	**130.91**
SLOAPCD Daily Threshold	137
Threshold Exceeded?	**No**

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; SLOAPCD = San Luis Obispo County Air Pollution Control District

Notes: All emissions modeling was completed using CalEEMod. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] Emissions from construction of one injection well and associated monitoring wells were modeled, then multiplied by two to account for simultaneous construction of two wells at any given time during Phase I. See Appendix C for calculations.

[2] Assumes use of equipment with minimum Tier 3 certified engines during the building construction phase of the ATF complex and use of drill rigs, air compressors, and generators with Tier 4 Final certified engines during well construction.

Table 4.1-11 Mitigated Phase I Maximum Quarterly Construction Air Pollutant Emissions

Project Component	ROG + NO_X (tons/quarter)	DPM (tons/quarter)	Dust (tons/quarter)
Injection/Monitoring/Production Wells[1, 2, 3]	0.38	0.01[4]	0.02[5]
Water Distribution Pipelines[6]	0.77	0.03	0.01
ATF Complex[1]	1.19	0.05	0.03
Total Maximum Quarterly Emissions	**2.34**	**0.09**	**0.06**
SLOAPCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**No**	**No**	**No**
SLOAPCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; SLOAPCD = San Luis Obispo County Air Pollution Control District; N/A = not applicable; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

Notes: All emissions modeling was completed using CalEEMod. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] CalEEMod calculates quarterly emissions of ROG+NO_X but does not calculate quarterly emissions for DPM and dust; therefore, maximum annual construction emissions of DPM and dust were divided by four to estimate maximum quarterly emissions.

[2] Emissions from construction of one injection/production well and two monitoring wells were modeled, then multiplied by two to account for simultaneous construction of two injection/production wells and four monitoring wells during any given quarter of Phase I.

[3] Assumes use of equipment with minimum Tier 3 certified engines during the building construction phase of the ATF complex and use of drill rigs, air compressors, and generators with Tier 4 Final certified engines during well construction.

[4] DPM estimates were derived from the "PM_{10} Exhaust" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2019a).

[5] Dust is equal to fugitive PM_{10} reported by CalEEMod.

[6] Maximum quarterly emissions were calculated using maximum daily emissions from the highest emissions-generating phases that would occur during the same quarter (excavation/shoring and installation). See Appendix C for calculations.

Table 4.1-12 Mitigated Phase II Maximum Quarterly Construction Air Pollutant Emissions

Project Components	ROG + NO_X (tons/quarter)	DPM (tons/quarter)	Dust (tons/quarter)
Injection Wells and Additional Water Distribution Pipelines[1, 2, 3, 4]	0.38	0.01[5]	0.02[6]
Agricultural Irrigation Pipelines[7]	1.03	0.04	0.01
Total Maximum Quarterly Emissions	**1.41**	**0.05**	**0.03**
SLOAPCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**No**	**No**	**No**
SLOAPCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; SLOAPCD = San Luis Obispo County Air Pollution Control District; N/A = not applicable; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

Notes: All emissions modeling was completed using CalEEMod. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data from CalEEMod is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] CalEEMod calculates quarterly emissions of ROG+NO_X but does not calculate quarterly emissions for DPM and dust; therefore, maximum annual construction emissions of DPM and dust were divided by the number of quarters undergoing construction in a year to estimate maximum quarterly emissions.

[2] Emissions from construction of one injection well were modeled, then multiplied by two to account for simultaneous construction of both wells under Phase II. Phase II of construction would also include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

[3] Emissions from construction of the additional 40 feet of water distribution pipelines under Phase II would be within the emissions estimate for the injection wells because pipeline construction would be completed with similar equipment and within the five-month construction schedule assumed for the injection wells.

[4] Assumes use of equipment with minimum Tier 3 certified engines during the building construction phase of the ATF complex and use of drill rigs, air compressors, and generators with Tier 4 Final certified engines during well construction.

[5] DPM estimates were derived from the "PM_{10} Exhaust" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2019a).

[6] Dust is equal to fugitive PM_{10} reported by CalEEMod.

[7] Maximum quarterly emissions were calculated using maximum daily emissions from the highest emissions-generating phase (installation), which would occur for an entire quarter. See Appendix C for calculations.

Threshold: Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3 OPERATION OF THE PROJECT WOULD GENERATE TEMPORARY INCREASES IN CRITERIA AIR POLLUTANT EMISSIONS. HOWEVER, AIR POLLUTANT EMISSIONS WOULD NOT EXCEED SLOAPCD OPERATIONAL THRESHOLDS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Operation of the proposed pipeline and pump station along with increased groundwater pumping would require approximately 10,560 megawatt-hours of electricity per year for water transport; however, CalEEMod only calculates direct emissions of criteria pollutants from energy sources that combust on site, such as natural gas used in a building (California Air Pollution Control Officers Association 2017). CalEEMod does not calculate or attribute emissions of criteria pollutants from electricity generation to individual projects because fossil fuel power plants are existing stationary

sources permitted by air districts and/or the USEPA, and they are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users.

Therefore, the primary source of operational emissions would be on-site natural gas combustion for space heating and vehicle trips to and from the ATF complex by staff members arriving to and leaving from work, weekly maintenance trips to the injection/monitoring/production wells, semiannual maintenance trips to the pipeline monitoring valves, and biweekly chemical deliveries. Daily and annual operational emissions associated with the project are summarized in Table 4.1-13 and Table 4.1-14 (see Appendix C for complete CalEEMod results) and compared to the applicable SLOAPCD operational emissions thresholds. As shown therein, the project's daily and operational emissions would not exceed SLOAPCD thresholds. Therefore, operational impacts would be less than significant.

Table 4.1-13 Estimated Operational Daily Air Pollutant Emissions

Emissions Source	ROG + NO_X (lbs/day combined)	Fugitive PM_{10} (dust lbs/day)	DPM[1] (lbs/day)	CO (lbs/day)
Area and Energy Sources	0.80	0	<0.01	0.15
Mobile Sources	0.06	0.35	0.01	1.00
Total Emissions	0.86	0.35	0.01	1.15
SLOAPCD Daily Threshold	25	25	1.25[2]	550
Threshold Exceeded?	**No**	**No**	**No**	**No**

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter measuring 10 microns or less in diameter; DPM = diesel particulate matter; CO = carbon monoxide; SLOAPCD = San Luis Obispo County Air Pollution Control District; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

Notes: All emissions modeling was completed using CalEEMod. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

[1] DPM estimates were derived from the "PM_{10} Exhaust" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2019a).

[2] The SLOAPCD-recommended DPM significance threshold applies to on-site emission sources (i.e., area and energy sources).

Table 4.1-14 Estimated Operational Annual Air Pollutant Emissions

	ROG + NO_X (tons/year combined)	Fugitive PM_{10} (tons/year dust)
Proposed Project Annual Emissions	0.17	0.06
SLOAPCD Annual Threshold	25	25
Threshold Exceeded?	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter measuring 10 microns or less in diameter; SLOAPCD = San Luis Obispo County Air Pollution Control District

Notes: All emissions modeling was completed using CalEEMod. See Appendix C for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results, which account for compliance with regulations (including SLOAPCD Rule 433) and project design features.

Mitigation Measure

No mitigation is required.

Impact AQ-4 PROJECT CONSTRUCTION AND OPERATION WOULD GENERATE EMISSIONS OF CRITERIA AIR POLLUTANTS. HOWEVER, THE PROJECT AREA IS DESIGNATED ATTAINMENT FOR ALL NAAQS. THEREFORE, THE PROPOSED PROJECT WOULD NOT EXCEED AN APPLICABLE *DE MINIMIS THRESHOLD,* AND GENERAL CONFORMITY REQUIREMENTS DO NOT APPLY. THE PROPOSED PROJECT IS EXEMPT FROM A CONFORMITY DETERMINATION, AND NO IMPACT WOULD OCCUR.

The project sponsors will be applying for federal funding from State Revolving Fund and other sources. Therefore, the project is required to demonstrate compliance with the USEPA General Conformity Rule, which ensures that actions taken by federal agencies in nonattainment and maintenance areas do not interfere with the State's plans to meet NAAQS.

Table 4.1-15 summarizes the project's total maximum annual emissions that would be generated during construction and operation. As shown in Figure 4.1-1 in Section 4.1.1(c), *Regulatory Setting*, the project area is located in the western portion of San Luis Obispo County, which is designated attainment for the federal ozone NAAQS. In addition, San Luis Obispo County is designated attainment for all other NAAQS. Therefore, under the General Conformity Rule, there are no applicable *de minimis* thresholds for the proposed project. As such, because the proposed project would not exceed an applicable *de minimis threshold,* general conformity requirements do not apply, and the proposed project is exempt from a conformity determination. Regardless of basin attainment status, the SWRCB requires that estimates of criteria pollutant emissions associated with the proposed project and supporting calculations be submitted with Attachment E1 of the State Revolving Fund Environmental Package. The results of this assessment will be summarized in Attachment E1, and this EIR section will be included with the State Revolving Fund Environmental Package as supporting documentation.

Table 4.1-15 Estimated Maximum Annual Emissions (tons per year)

Emissions Source	VOC[1]	NO_X	NO_2[2]	CO	PM_{10}	$PM_{2.5}$	SO_2
Maximum Construction Emissions[3]	1.54	14.17	14.17	13.85	1.06	0.75	0.04
Maximum Operational Emissions	0.12	0.05	0.05	0.21	0.06	0.02	0.01
Maximum Construction plus Operational Emissions[4]	1.66	14.22	14.22	14.06	1.12	0.77	0.05
Maximum Annual Emissions	1.66	14.22	14.22	14.06	1.12	0.77	0.05
De Minimis Thresholds[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Threshold Exceeded?	N/A	N/A	N/A	N/A	N/A	N/A	N/A

VOC: volatile organic compounds; NO_X: nitrogen oxides; NO_2: nitrogen dioxide; CO: carbon monoxide; PM_{10}: particulate matter less than 10 microns in size; $PM_{2.5}$: particulate matter less than 2.5 microns in size; SO_2: sulfur dioxide; N/A: not applicable.

[1] VOC is equivalent to ROG as calculated by CalEEMod.

[2] NO_2 was conservatively assumed to be equivalent to NO_X.

[3] Maximum annual construction emissions would occur during Phase II of construction activities.

[4] Conservatively assumes that all construction emissions would be generated in same year that project operation commences.

[5] Since the portion of San Luis Obispo County in which the project area is located is in attainment for all NAAQS, there are no applicable *de minimis* thresholds for the proposed project.

See Appendix C for modeling details and CalEEMod and RCEM results.

Threshold: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact AQ-5 PROJECT CONSTRUCTION AND OPERATION WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL CONCENTRATIONS OF TACS, NATURALLY OCCURRING ASBESTOS, OR ODORS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed in Section 4.1.1(e), *Sensitive Receptors*, several sensitive receptors are located within and near the project area, including residential neighborhoods, schools, parks, and the Arroyo Grande Community Hospital. The following subsections discuss potential impacts related to TACs, naturally-occurring asbestos, and odors. The proposed project would not require demolition activities; therefore, the project would have no impacts related to asbestos and lead from lead-based paint, and these issues are not discussed further.

Toxic Air Contaminants

The primary sources of TAC emissions in urbanized and suburban areas are industrial uses and vehicle trips on area roadways. The proposed ATF complex would include an emergency diesel generator, which is a minor stationary TAC source. However, this generator would be required to comply with SLOACPD Rule 219, which establishes TAC emissions standards for stationary sources that are protective of public health. As a result, the emergency generator would not expose sensitive receptors to substantial TAC emissions. The primary TAC emitted by project construction and operation would be DPM generated by construction equipment and diesel-fueled delivery trucks. As discussed under Impacts AQ-2 and AQ-3, construction-related and operational DPM emissions would not exceed SLOAPCD thresholds. As a result, the project would not generate

substantial mobile source TAC emissions, and potential impacts from exposure of sensitive receptors to substantial TAC concentrations would be less than significant.

Naturally-Occurring Asbestos

Naturally-occurring asbestos has been identified by the CARB as a TAC. Serpentine and ultramafic rocks are common in San Luis Obispo County and may contain naturally occurring asbestos. According to the SLOAPCD Naturally-Occurring Asbestos Map for San Luis Obispo County, the project area is not located in an area that is known to contain naturally-occurring asbestos (SLOAPCD 2019b). Therefore, project construction activities, including grading, would not expose sensitive receptors to substantial concentrations of naturally-occurring asbestos, and impacts would be less than significant.

Odors

During construction, the project would generate oil and diesel fuel odors from use of heavy equipment as well as odors related to asphalt paving. The odors would be limited to the construction period and would be temporary. In addition, project construction activities would occur at a variety of locations throughout the project area, and sensitive receptors at any given location would only be exposed to construction-generated odors for a short period of time. Therefore, construction-related odor impacts would be less than significant.

The SLOAPCD (2012) *CEQA Air Quality Handbook* identifies multiple sources that may cause odors including, but not limited to, wastewater treatment plants, landfills, composting facilities, petroleum refineries, and chemical manufacturing. The Pismo Beach and SSLOCSD WWTPs are currently storing and treating wastewater, and the proposed project would not alter the quantities of wastewater processed by these facilities because it would introduce an additional treatment process downstream of these WWTPs. ATF source water would be secondary treated effluent from the WWTPs, which would not contain constituents that would generate odors while traveling through underground pipelines or while stored in the equalization basin. The treatment process at the ATF complex would not include processes known to generate objectionable odors. In addition, advanced purified water produced by the ATF complex would not contain constituents that would generate odors while stored in the underground storage tank. The injection/monitoring/production well network and water distribution/agricultural irrigation pipelines would also not generate nuisance odors during operation. Therefore, no operational odor impacts would occur.

Mitigation Measure

No mitigation is required.

c. Cumulative Impacts

The geographic scope for the cumulative air quality impact analysis is the South Central Coast Air Basin. This geographic scope is appropriate for air quality because air quality is affected by the climatic conditions, regional topography, and atmospheric conditions of a region. A project that does not exceed applicable SLOAPCD thresholds and is consistent with the 2001 CAP would not have a cumulatively considerable contribution to a cumulative impact on the airshed. Conversely, a project that exceeds applicable SLOAPCD significance thresholds or is found to be inconsistent with the 2001 CAP would result in a cumulatively considerable contribution to a cumulative air quality impact. As discussed under Impact AQ-1, the project would not conflict with or obstruct implementation of the 2001 CAP. However, as discussed under Impact AQ-2, the project would

exceed SLOAPCD daily and quarterly thresholds for emissions of ROG + NO_X during Phase I of construction activities. As shown in Table 4.1-10 and Table 4.1-11 under Impact AQ-2, implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would reduce construction emissions below SLOAPCD thresholds, thereby reducing impacts to a less-than-significant level. Air pollution by nature is a cumulative issue, and significance thresholds are established at the levels at which impacts would be cumulatively considerable. As such, emissions below the thresholds not be cumulatively considerable. Therefore, with mitigation incorporated, the project would not have a cumulatively considerable contribution to the cumulative air quality impact.

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4.2 Biological Resources

This section describes existing conditions and regulatory setting for biological resources in the project area and assesses potential impacts on biological resources that could result from implementation of the proposed project. The analysis of biological resources within the project area is based on a review of relevant literature and the results of reconnaissance-level field surveys conducted for the project components with known locations (i.e., injection wells, monitoring wells, ATF complex, and water distribution pipelines), which are summarized in the Biological Resources Assessment prepared for these project components (Rincon Consultants, Inc. 2020; Appendix D). The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.2.1 Setting

a. Vegetation Communities and Land Cover

Seven terrestrial vegetation communities or land cover types occur within the limits of project components with known locations with a 100-foot buffer: developed/landscaped, arroyo willow riparian, iceplant mat, blackberry bramble, non-native grassland, eucalyptus stand, and ruderal. Vegetation alliances listed in the descriptions presented below were classified based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009). Botanical nomenclature is presented as in *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). See Figure 4.2-1 through Figure 4.2-7 for maps depicting the project components with known locations and the mapped vegetation communities.

Developed/Landscaped

The developed/landscaped land cover type is the largest land coverage within the limits of project components with known locations. This land cover type includes roads, residential and commercial buildings, campgrounds, and parking lots. The landscaped portion of this community is closely associated with development. Landscaped plants, including lollypop tree (*Myoporum laetum*), trumpet creeper (*Campsis radicans*), and Bermuda grass (*Cynodon dactylon*), occur in these areas.

Developed areas are not classified in the MCV2 classification system (Sawyer et al. 2009) or the Holland (1986) classification system but are included in the California Department of Fish and Wildlife (CDFW) California Wildlife Habitat Relationships database as Urban (Mayer and Laudenslayer 1988).

Arroyo Willow Riparian

The arroyo willow riparian habitat type is associated with Arroyo Grande Creek and Meadow Creek. Arroyo willow riparian habitat occurs within the footprints of the water distribution pipeline alignments within Oceano County Airport. Vegetation consists of a canopy of mature arroyo willow trees and occasional coast live oak tree, blue elderberry (*Sambucus nigra*) and California coffeeberry (*Frangula californica)*. The understory is dense and dominated by California blackberry (*Rubus ursinus*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), wild radish (*Raphanus sativus*), and celery (*Apium graveolens*). The arroyo willow riparian most closely corresponds to the *Salix lasiolepis* Shrubland Alliance in the MCV2 (Sawyer et al. 2009).

Figure 4.2-1 Vegetation and Land Cover – MW-1C/1D

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Additional data provided by County of San Luis Obispo, 2017.

Fig 5 Vegetation_20200311

Figure 4.2-2 Vegetation and Land Cover– IW-1, MW-1A/1B, and Water Distribution Pipelines

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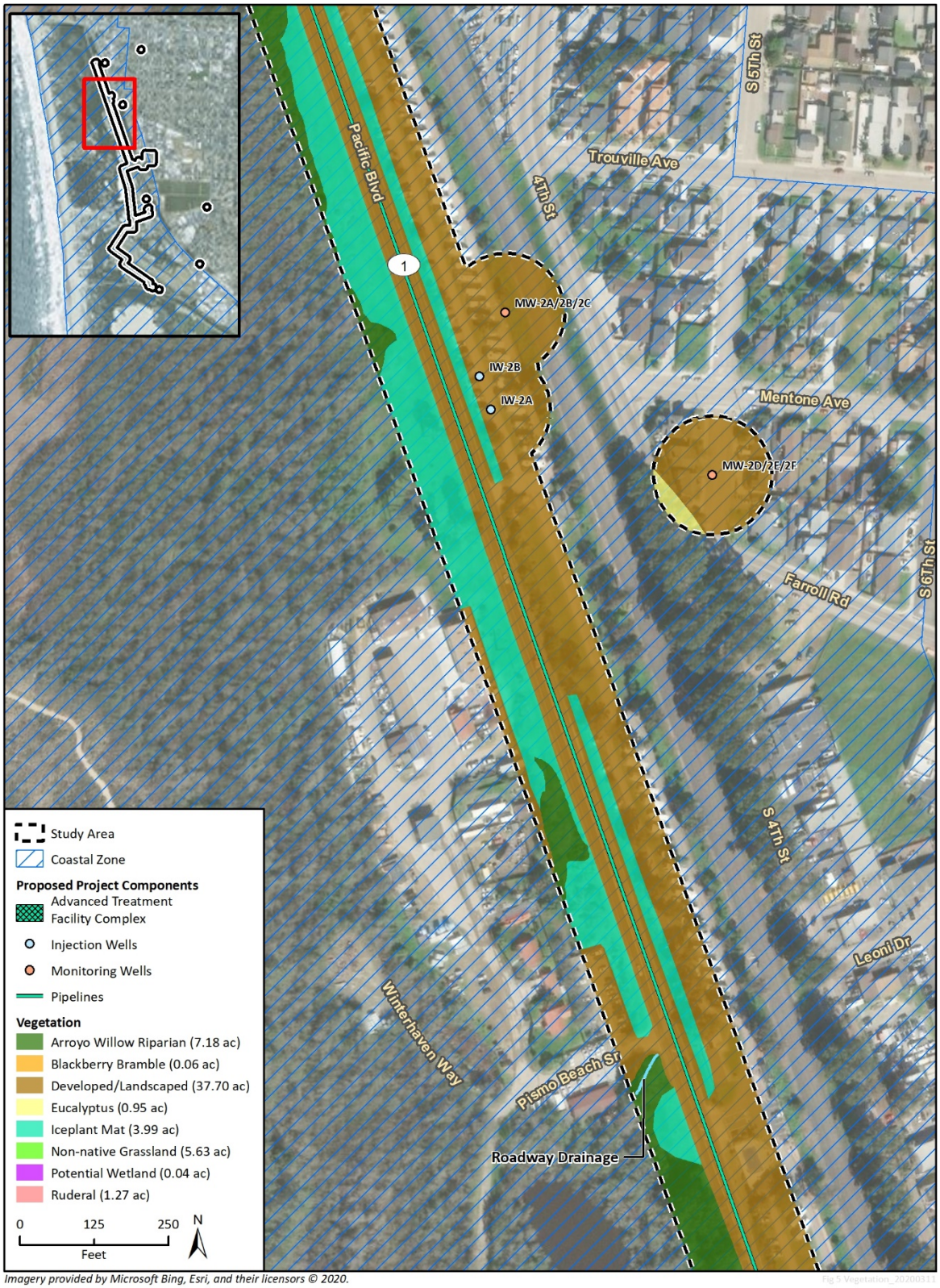
Additional data provided by County of San Luis Obispo, 2017.

Figure 4.2-3 Vegetation and Land Cover – IW-2A, IW-2B, MW-2A/2B/2C, MW-2D/2E/2F, and Water Distribution Pipelines



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Additional data provided by County of San Luis Obispo, 2017.

Figure 4.2-4 Vegetation and Land Cover - IW-3, IW-4, MW-3A/3B, MW-3D/3E, MW-4A/4B, ATF Complex, and Water Distribution Pipelines

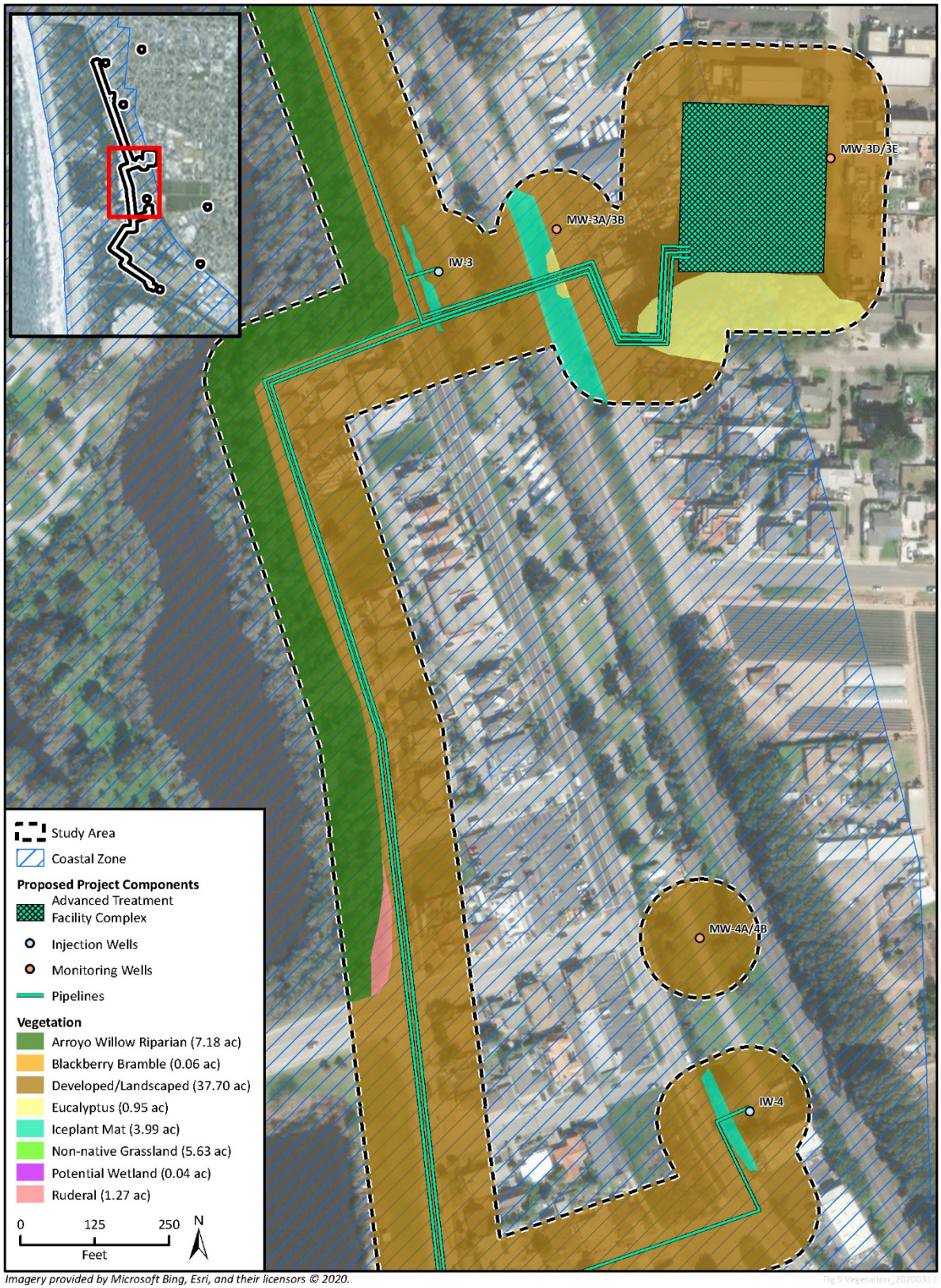

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Figure 4.2-5 Vegetation and Land Cover – Water Distribution Pipelines

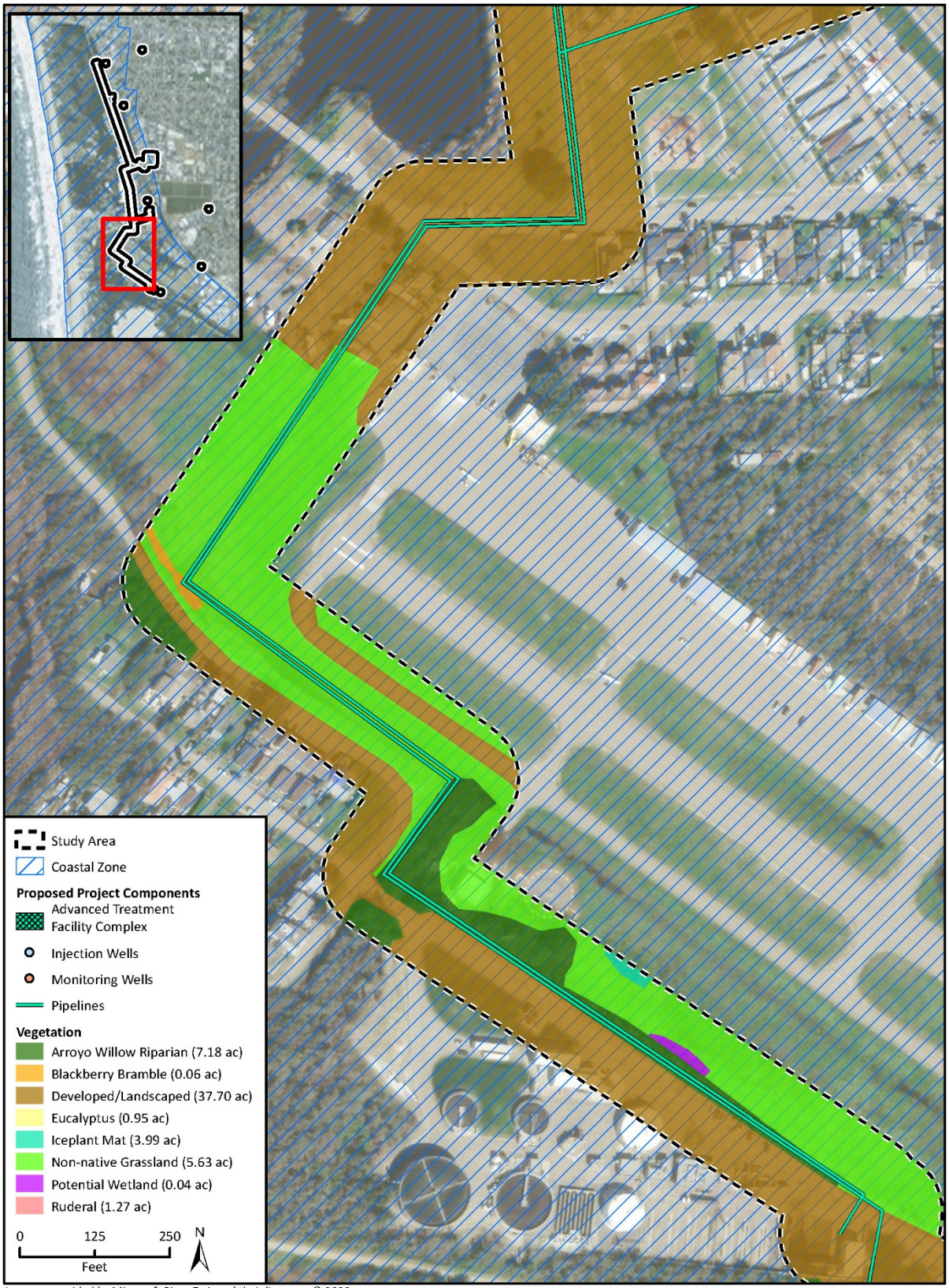

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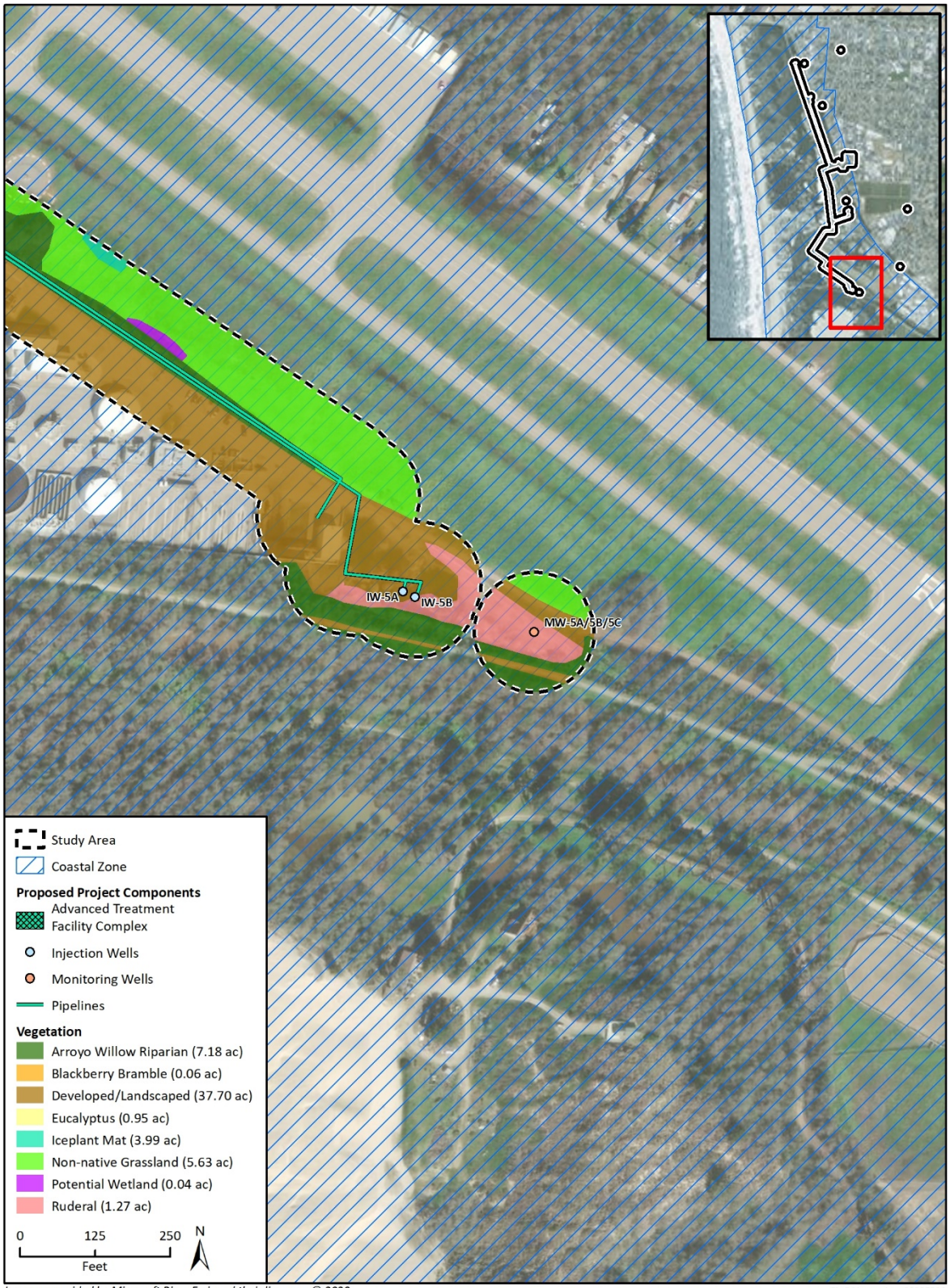
Figure 4.2-6 Vegetation and Land Cover – IW-5A, IW-5B, MW-5A/5B/5C, and Water Distribution Pipelines



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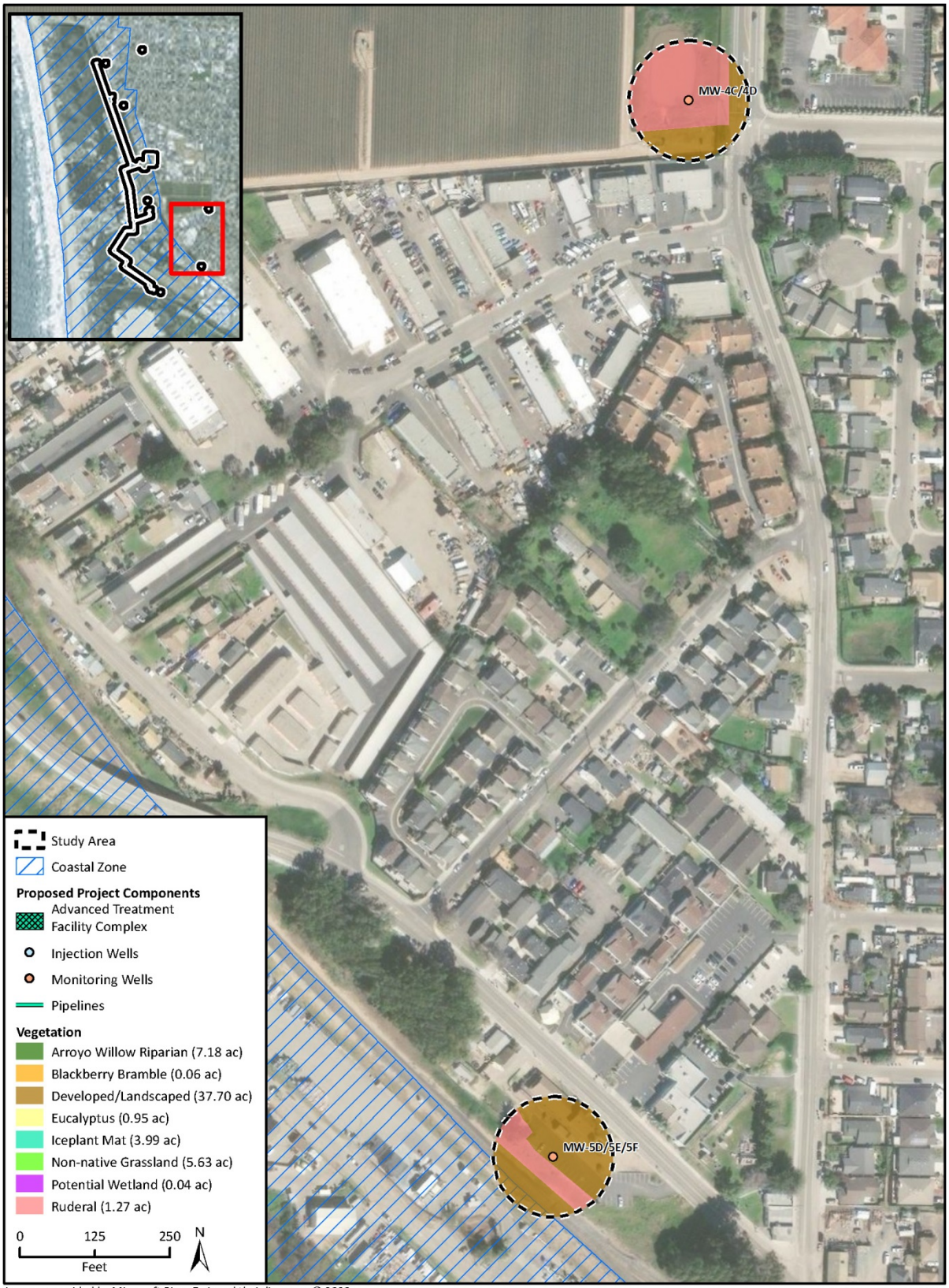
Additional data provided by County of San Luis Obispo, 2017.

Figure 4.2-7 Vegetation and Land Cover –



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Additional data provided by County of San Luis Obispo, 2017.

Fig 5 Vegetation_20200311

Iceplant Mat

Iceplant (*Carpobrotus edulis*) is a non-native invasive species, originally planted in the 1940s and 1950s for landscaping and dune stabilization (CDFW 2019a). These perennial ground-hugging succulents form large monospecific mats (Sawyer et al. 2009). Iceplant has a California Invasive Plant Council rating of "High" for its invasive tendencies. This hardy species spreads readily from landscaped areas into dune and scrub habitats, outcompeting native species for space, nutrients, and moisture. This community most closely resembles the *Carpobrotus edulis* or Other Iceplant Semi-Natural Herbaceous Stand Alliance described by Sawyer et al. (2009). Iceplant mat occurs within the project locations of IW-1, IW-2A, IW-2B, IW-3, IW-4, MW-3A, MW-3B, and the water distribution pipelines.

Interspersed within the iceplant mat are landscaped trees, including ironwood (*Lyonothamus floribundus*), and small patches of non-native forbs and grasses, including thick leaved pittosporum (*Pittosporum crassifolium*) and ripgut brome. Monterey pine (*Pinus radiata*) is also dispersed throughout this community; however, these interspersed trees and grasses are not classified as their own vegetation community due to their lack of dominance within this community.

Ruderal

Ruderal vegetation is associated with and adjacent to areas of active disturbance within the project locations of IW-5A, IW-5B, MW-4C/4D, and MW-5A/5B/5C. This vegetation community occurs where ground has previously been disturbed and is currently not in active use. The ruderal vegetation is dominated by jimson weed (*Datura stramonium*) with other non-native herbaceous species such as flax-leaved horseweed (*Erigeron bonariensis*) and black mustard (*Brassica nigra*) occasionally interspersed. The ruderal areas most closely correspond to the *Brassica nigra - Raphanus* spp. Herbaceous Semi-Natural Alliance in the MCV2 (Sawyer et al. 2009).

Blackberry Bramble

Blackberry bramble is located within and adjacent to a segment of the water distribution pipeline alignments in the Oceano County Airport property. The blackberry bramble is an independent stand dominated by California blackberry (*Rubus ursinus*) within the project locations of the water distribution pipelines. The blackberry bramble most closely corresponds to *Rubus (parviflorus, spectabilis, ursinus)* Shrubland Alliance described in the MCV2 (Sawyer et al. 2009).

Eucalyptus Stand

The eucalyptus stand land cover covers approximately 0.95 acre of the Study Area. This land cover is dominated by blue gum (*Eucalyptus globulus*). The understory was primarily ruderal vegetation and blue gum debris. This land cover provides habitat for nesting birds including raptors. The eucalyptus stand most closely corresponds to *Eucalyptus* ssp. Woodland Semi-Natural Alliance described in the MCV2 (Sawyer et al. 2009).

Non-Native Grassland

The non-native grassland is associated with and adjacent to areas of routine maintenance within the project locations of the water distribution pipelines. The non-native grassland is dominated by Bermuda grass (*Cynodon dactylon*) with sweet fennel (*Foeniculum vulgare*), foxtail brome (*Bromus madritensis*), poison hemlock (*Conium maculatum*), English plantain (*Plantago lanceolata*), common sowthistle (*Sonchus oleraceus*), and mustard (*Hirschfeldia incana*). This vegetation most closely corresponds to non-native grassland described in the Holland (1986) classification.

b. Soils

The project area is located in the *San Luis Obispo County, California, Coastal Part* soil survey area (United States Department of Agriculture Natural Resources Conservation Service 1984). The United States Department of Agriculture Natural Resources Conservation Service (2019) Web Soil Survey delineates three soil map units within the limits of project components with known locations: Mocho fine sandy loam (0 to 2 percent slopes, major land resource area 14), Oceano sand (0 to 9 percent slopes), and psamments and fluvents. Site-specific soil observations are consistent with those mapped by the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey (Appendix D). Figure 4.2-8 depicts the soils within the limits of project components with known locations. For a complete description of each soil map unit, see Appendix D.

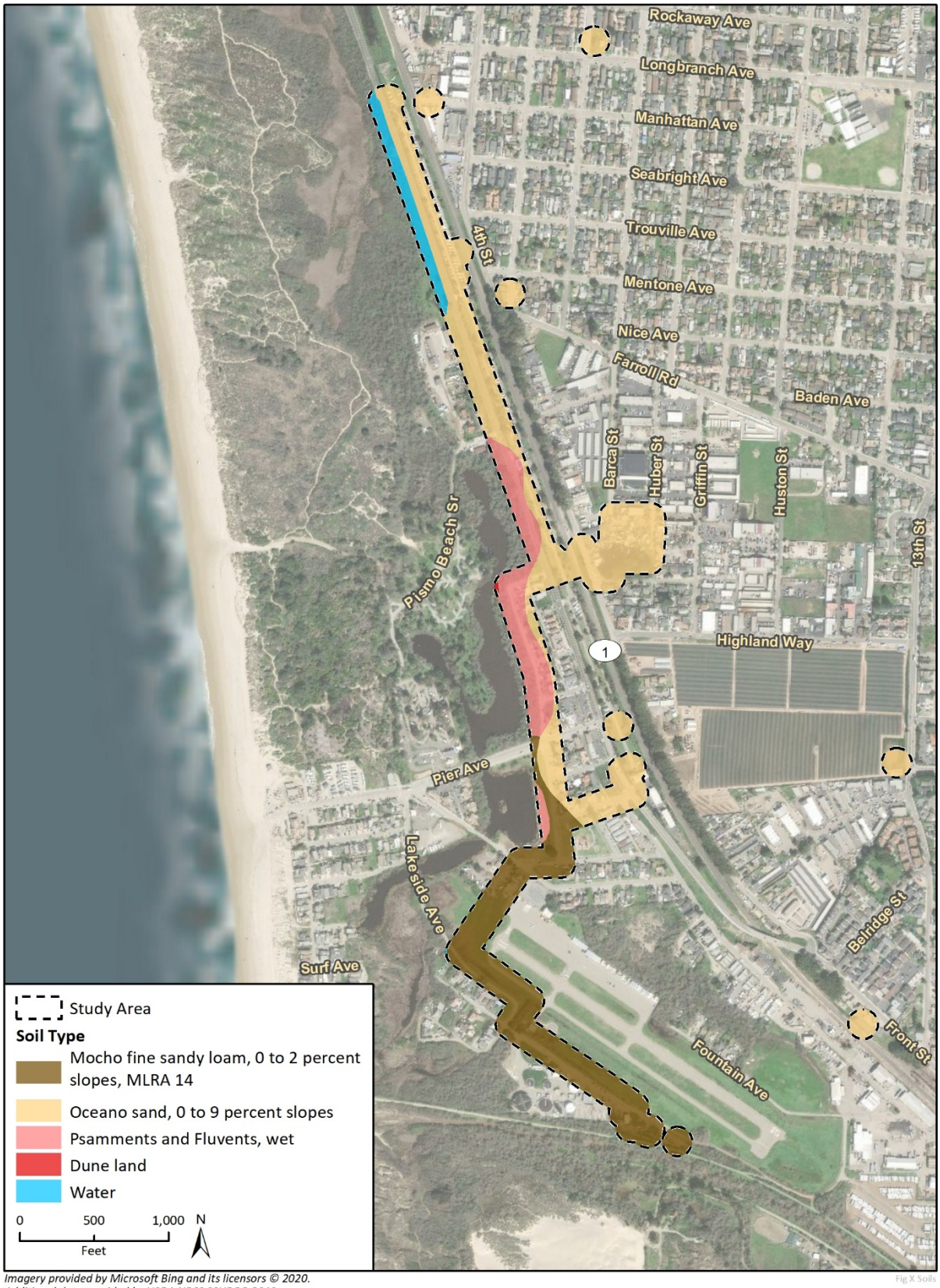
c. Special Status Species

For the purpose of this analysis, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the United States Fish and Wildlife Services (USFWS) and National Marine Fisheries Service (NMFS) under the federal Endangered Species Act; those listed or proposed for listing as threatened or endangered by the CDFW under the California Endangered Species Act; plants listed as rare by the CDFW under the Native Plant Protection Act; and animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW. Those plants ranked as California Rare Plant Rank (CRPR) 1 or 2 are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and were considered as such in this EIR. The CRPR utilizes the following code definitions:

- **List 1A** = Plants presumed extinct in California
- **List 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences are threatened or have a high degree and immediacy of threat)
- **List 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20 to 80 percent of occurrences are threatened)
- **List 1B.3** = Rare or endangered in California and elsewhere but not very endangered in California (less than 20 percent of occurrences threatened or no current threats known)
- **List 2** = Rare, threatened or endangered in California, but more common elsewhere

CRPR List 3 species are "review list," and CRPR 4 species are considered "watch list" species. CRPR 3 and 4 species do not typically warrant analysis under CEQA except where they are part of a unique community, from the type locality, or designated as rare or significant by local governments, or where cumulative impacts could result in population–level effects. The CRPR 3 and 4 species reported from the region are not locally designated as rare or significant by the City of Grover Beach and County of San Luis Obispo, Local Coastal Programs (LCPs) or General Plans and are not part of a unique community, and the project area is not known to be the type locality for any ranked plant species. Therefore, potential impacts to CRPR 3 and CRPR 4 species were not considered in this analysis.

Figure 4.2-8 Soils Map Units within the Project Locations and 100-Foot Buffer



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Additional data provided by USDA NRCS SSURGO 2019.

Fig X Soils

Special Status Plant Species

Fifty-nine special status plant species are known to or have the potential to occur within the vicinity of the project area based on the database and literature review of records from the *Oceano, California* United States Geological Survey 7.5-minute topographic quadrangle and surrounding seven quadrangles as well as the USFWS Information for Planning and Consultation (USFWS 2019a) list of federally listed species (see Appendix D for a full list of special status plant species). Most of the locations of known project components lack suitable habitat for special status plants due to development, landscaping, and the establishment of iceplant mats and ruderal vegetation. There is potential for one special status plant species, black-flowered figwort (*Scrophularia atrata*), to occur at the locations of IW-5A, IW-5B, MW-5A/5B/5C, and the water distribution pipelines based on the presence of suitable habitat either on or near the project at these locations. Because the locations of the agricultural irrigation pipelines and production well are not known at this time, some of the other 58 special status plant species known to or having the potential to occur within the vicinity of the project area as listed in Appendix D could also have some potential to occur where these project components would be sited.

Black-flowered Figwort

The black-flowered figwort, a CRPR 1B.2 ranked species, was not observed during the reconnaissance-level survey. However, the survey was not conducted within the blooming period for this species and as such, its potential to occur adjacent to the locations of IW-5A, IW-5B, MW-5A/5B/5C, and the segment of water distribution pipelines within the Oceano County Airport is based solely on the presence of suitable arroyo willow riparian habitat immediately adjacent to these locations and the proximity of the project components with known locations of occurrences documented in the California Natural Diversity Database (CNDDB; CDFW 2019b).

Special Status Animal Species

Thirty-three special status animal species were identified in the region by using the *Oceano*, *California* United States Geological Survey 7.5-minute topographic quadrangle and surrounding seven quadrangles as well as the USFWS Information for Planning and Consultation (USFWS 2019a) list of federally listed species (see Appendix D for a full list of special status animal species). Of the 33 animal species, the following seven special status animal species may occur at the locations of known project components based on the presence of suitable habitat:

- Tri-colored blackbird (*Agelaius tricolor*) - State Threatened, State Species of Special Concern (SSC)
- White-tailed kite (*Elanus leucurus*) - State Fully Protected
- California red-legged frog (*Rana draytonii*) - Federally Threatened, SSC
- California legless lizard (*Anniella pulchra*) - SSC
- Southwestern pond turtle (*Emys marmorata*) – SSC
- Southern sea otter (*Enhydra lutris nereis*) – Federally Threatened, SSC
- Steelhead-south-central California coast distinct population segment (*Oncorhynchus mykiss)* – Federally Threatened

In addition, although the California overwintering population of monarch butterfly (*Danaus plexippus*) is not a federally or state listed species, the USFWS has been petitioned to list this species under the federal Endangered Species Act and has initiated the Species Status Assessment process. The listing decision is expected to be published in December 2020 (USFWS 2020). In addition, it is a species of

local concern. Therefore, the California overwintering population of monarch butterfly will be analyzed herein as a special status species.

Although definitive surveys for special status animal species were not conducted, no individual or sign indicating the presence of these special status animal species were observed during the reconnaissance-level survey (Appendix D). As such, the following analysis of potential for occurrences is based on the habitat suitability and CNDDB occurrences of these species in the vicinity of the project components with known locations. Because the locations of the agricultural irrigation pipelines and production well are not known at this time, some of the other 26 special status animal species known to or having the potential to occur within the vicinity of the project area, as listed in Appendix D, could have some potential to occur at these locations in addition to the tri-colored blackbird, white-tailed kite, California red-legged frog (CRLF), California legless lizard, southwestern pond turtle, and steelhead.

Tri-colored Blackbird

Potentially suitable foraging habitat for tri-colored blackbird, a State Threatened species and SSC, occurs throughout the project area. Tri-colored blackbird requires open water, protected nesting substrate, and adequate foraging area with insect prey within a few miles of the colony. Suitable nesting substrate is not within the project limits of components with known locations; however potentially suitable nesting habitat can be found in the overall project area in areas in proximity to open water, such as Oceano Lagoon (which is approximately 150 feet west of the proposed water distribution pipeline alignments along SR 1, Coolidge Drive, and Norswing Drive) in areas containing cattails forming protected nesting substrate. No CNDDB occurrences of tri-colored blackbird have been documented within five miles of the known locations of project components; however, the species has been documented at numerous locations within a 10-mile radius of the known locations of project components in areas similar in nature to Oceano Lagoon. Other resources, including eBird, have documented the species within Oceano Lagoon (observed in 2018) as well as at the confluence of Oceano Lagoon with Arroyo Grande Creek (observed in 1992; eBird 2019). Based on the habitats found within the project limits of components with known locations, this species is only expected to occur incidentally as it forages or moves through the area.

White-tailed Kite

The project limits of components with known locations contain potentially suitable habitat for white-tailed kite, a State Fully Protected species. Potential foraging and nesting habitat for white-tailed kite occurs throughout the project area. White-tailed kite requires open grassland or marshes for foraging and dense-topped trees for nesting and perching. Eucalyptus, Monterey pines, and Monterey cypress trees scattered throughout the project area may be potential nesting habitat for the species, and the non-native grassland may be potential foraging habitat. No CNDDB occurrences have been documented within five miles of the known locations of project components; however, the species has been documented adjacent to Oceano Lagoon (observed from 2006 through 2019; eBird 2019).

California Red-legged Frog

The CRLF, a Federally Threatened species and SSC, inhabits quiet pools of streams, marshes, and ponds. All life history stages are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds,

irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation.

The project area is located within the known range of CRLF in San Luis Obispo County based upon the current range depicted in the Arroyo Grande Creek core area of the USFWS (2002) *Recovery Plan for the California Red-Legged Frog*. CRLF are known to occur within Arroyo Grande Creek from Oceano Lagoon to approximately 1.4 miles upstream (CDFW 2019b). The CNDDB documents multiple years where records of the species were made within the section of Arroyo Grande Creek between Oceano Lagoon and to approximately one mile upstream.

The majority of the project area is developed or heavily disturbed. No aquatic breeding habitat occurs within the project limits of components with known locations. The IW-5A, IW-5B, and MW/5A/5B/5C locations as well as portions of the water distribution pipeline alignments adjacent to Arroyo Grande Creek contain or are adjacent to potentially suitable dispersal habitat for the CRLF in the form of arroyo willow riparian associated with Arroyo Grande Creek. Encountering CRLF within the project limits of components with known locations is anticipated to be low and could be expected during conditions suitable for amphibian terrestrial movement, such as during wet conditions during or following rain events or at night. Although no suitable aquatic habitat for CRLF exists within the project limits of components with known locations, encounters with CRLF during implementation are still possible due to the close proximity to known occurrences within Arroyo Grande Creek and Meadow Creek and known breeding areas within dispersal distance.

California Legless Lizard

The project area contains suitable habitat for California legless lizard, an SSC. California legless lizard requires sandy soils with moisture and sparse vegetation. The CNDDB documents an occurrence within the southern extent of the project area, adjacent to Arroyo Grande Creek within coastal dune habitat (Occurrence # 174; CDFW 2019b). No evidence of California legless lizard was found on site during the reconnaissance survey (Appendix D); however, marginally suitable habitat is located within the project limits of components with known locations. Soils throughout the project limits of components with known locations are generally suitable for this species due to their sandy characteristics. Habitats within the project area that can support the California legless lizard consist of ruderal areas, iceplant mats, non-native grassland, arroyo willow riparian, and landscaped areas where soils are sufficiently loose. However, due to regular disturbance and/or the presence of dense non-native plants such as iceplant, these habitats are of marginal quality. Nevertheless, this species still has the potential to occur within the project limits of components with known locations.

Southwestern Pond Turtle

Southwestern pond turtle, an SSC, is an aquatic turtle that occurs in ponds, marshes, rivers, streams and irrigation ditches that typically support aquatic vegetation. The species requires downed logs, rocks, mats of vegetation, or exposed banks for basking. Southwestern pond turtle lay their eggs in nests that are dug along the banks of streams or other uplands in sandy, friable soils. Southwestern pond turtles, especially those that reside in creeks, are also known to over winter in upland habitats. Upland movements can be quite extensive, and individuals have been recorded nesting or overwintering hundreds of feet from aquatic habitats. The typical nesting season is usually from April through August; however, variation exists depending upon geographic location.

No southwestern pond turtles or basking sites were observed within the project limits of components with known locations during the reconnaissance survey (Appendix D). The CNDDB documents occurrences within five miles of the project area within Arroyo Grande Creek and Pismo Creek. The

closest occurrence (Occurrence #77; CDFW 2019b) was recorded in Pismo Creek approximately 1.2 mile north of the nearest injection well location. Suitable upland habitat for this species is comprised of the arroyo willow riparian habitats adjacent to Meadow Creek and Arroyo Grande Creek, which can be used as nesting habitat. Therefore, the species has the highest potential to occur at the locations of IW-5A, IW-5B, MW-5A/5B/5C, and portions of the water distribution pipeline alignments within 50 feet of Arroyo Grande Creek, which are within or adjacent to riparian habitat.

Southern Sea Otter

Southern sea otter, a Federally Threatened species and SSC, inhabits the Pacific Ocean coastline from San Mateo County to Santa Barbara County and San Nicolas Island (USFWS 2015). Sea otters are found closely in association with rocky habitats and kelp forest dominated areas with an abundance of invertebrates including abalone, rock crabs, sea urchins, kelp crabs, mussels, barnacles, scallops and clams. Breeding typically occurs from June through November.

Southern sea otters are known to occur approximately five miles north along the rocky coast near the Shell Beach area of Pismo Beach. The species has a low potential to migrate near the existing discharge point of the ocean outfall pipeline in the Pacific Ocean. However, this location lacks dense kelp forest or rocky substrates and therefore does not provide suitable habitat for this species.

Steelhead-South-Central California Coast Distinct Population Segment

The south-central California coast distinct population segment of steelhead, a Federally Threatened species, is an anadromous fish that spends the majority of its lifespan within the ocean and migrates to freshwater coastal streams for spawning (NMFS 2013). This distinct population segment ranges from the Pajaro River in Monterey County to the Arroyo Grande Creek in San Luis Obispo County. Steelhead require freshwater spawning sites, freshwater rearing sites and freshwater migration corridors free of obstruction for reproduction. Steelhead spend up to three years in freshwater before migrating to the ocean where they spend up to four years maturing in a marine environment before returning to the freshwater environments (NMFS 2013).

Steelhead are known to occur within the segments of Arroyo Grande Creek that contain suitable spawning habitat for the species; however, an earthen levee separates the project area from Arroyo Grande Creek. Meadow Creek and Oceano Lagoon, located more than 100 feet west and south of the project area, are also isolated from the project area due to existing roadways and development. This species has a low potential to migrate near the discharge point of the existing ocean outfall pipeline in the Pacific Ocean.

Overwintering Population of Monarch Butterfly

Although monarch butterflies are not a federally or state listed species, they have been petitioned to be federally listed, and they are a species of local concern; therefore, they will be analyzed herein as a special status species. Potential suitable overwintering habitat for a population of monarch butterflies occurs adjacent to the ATF complex location. The California population of overwintering monarch butterflies requires stands or groves of trees that predominantly consist of eucalyptus species but may also include Monterey cypress, Monterey pine, and other trees in groves along the California coast from October to February (Monarch Joint Venture 2020). As depicted on the Western Monarch Count Overwintering Sites, the grove of eucalyptus trees located directly south of the ATF complex is identified as site 3063 (Xerces Society 2020). Monarchs were first documented at this location in 1982, and at the time the observers noted that more study was needed (CDFW 2019b; Xerces Society 2020). Monarchs have not been documented at the location since at least 2010 based

on Xerces Society 2020 data. Based on these data, this species has potential to utilize the eucalyptus grove adjacent to the ATF complex; however, because it is unclear whether the eucalyptus grove is being utilized as an overwintering site it would not currently be considered an environmentally sensitive habitat area (ESHA).

d. Sensitive Plant Communities and Critical Habitats

The CNDDB lists six sensitive natural communities in the eight quadrangles that include and surround the project area (Appendix D). None of the sensitive natural communities occur within the project limits of known project components. The Sensitive Natural Communities List in CNDDB is not currently maintained, and no new information has been added in recent years. Therefore, on-site vegetation types were also compared with the List of Vegetation Alliances and Associations (CDFW 2019c). According to the CDFW's Vegetation Program, Alliances with State ranks of S1 through S3 are considered to be imperiled and thus are potentially of special concern. No vegetation types with ranks S1 through S3 or vegetation types otherwise designated as high priority or potentially rare in the hierarchical list are present in the project limits of components with known locations.

The CNDDB lists critical habitat for tidewater goby (*Eucyclogobius newberryi*), South/Central California Coast Distinct Population Segment Steelhead (steelhead; *Oncorhynchus mykiss irideus*), western snowy plover (*Charadrius alexandrinus nivosus*), and La Graciosa thistle (*Cirsium loncholepis*) within five miles of the known locations of project components (USFWS 2019b; see Appendix D). No critical habitat for these species is present within the project limits of components with known locations. The nearest federally designated critical habitat is habitat for steelhead occurring in Arroyo Grande Creek approximately 60 feet south of the locations of IW-5A and IW-5B. Critical habitat also intersects with the likely alignments of potential agricultural irrigation pipelines that would be drilled under Arroyo Grande Creek.

All injection and monitoring well locations except MW-1C/1D, MW-3D/3E, MW-4C/4D, MW-5D/5E/5F and portions of the ATF complex location occur within the Coastal Zone mapped by the California Coastal Act and the CCC. Because the injection wells, monitoring wells, water distribution pipelines, and ATF complex locations occur within the jurisdictions of the City of Grover Beach and County of San Luis Obispo, it is anticipated that these project components would be regulated pursuant to the City of Grover Beach's and County's LCPs. LCPs typically identify ESHAs, which are areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. Section 30121 of the Coastal Act defines wetlands as lands within the Coastal Zone which may be covered periodically or permanently with shallow water, which includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. Coastal wetlands include "land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate" (California Code of Regulations Section 13577[b]). Within the project area, the City of Grover Beach and the County of San Luis Obispo each have an adopted LCP that identifies Meadow Creek, Arroyo Grande Creek and their respective riparian areas as ESHA.

e. Wetlands and Drainages

A majority of the project area is located within the Meadow Creek-Frontal Pacific Ocean subwatershed (Hydrologic Unit Code 12 - 180600060705) with the southern portion along Arroyo Grande Creek located in the Lower Arroyo Grande Creek subwatershed (Hydrologic Unit Code 12 – 180600060605) (United States Geological Survey 2019) See Figure 4.2-9 for a map of surface waters and watershed boundaries in the project area. The National Wetlands Inventory (NWI; USFWS 2019b) and National Hydrography Dataset (United States Geological Survey 2019) depict several drainages and wetlands in the project area, as shown in Figure 4.2-10 and summarized in Table 4.2-1. Arroyo Grande Creek, which runs through the southern portion of the project area, is classified as an intermittent stream and riverine habitat that is seasonally flooded (USFWS 2019c). The project area also contains freshwater forested/shrub wetlands that extend north along and around Oceano Lagoon, located in the southwest portion of the project area. Oceano Lagoon is classified as freshwater pond by NWI (USFWS 2019c). In the north and northwest portions of the project area is Meadow Creek and its associated freshwater forested/shrub wetlands (USFWS 2019c). Pismo Lake is located immediately north of the project area and is classified as a freshwater pond surrounded by freshwater forested/shrub wetlands (USFWS 2019c). The drainages and wetlands mapped by the NWI are generally consistent with the observations made during the field reconnaissance survey (Appendix D).

Table 4.2-1 Drainages and Wetlands Mapped by the NWI within the Project Limits of Components with Known Locations

Project Component	Project Component Located within NWI Feature?	Project Component Located within 100 Feet of NWI Feature (Yes/No)
IW-1	No	Yes (Meadow Creek)
IW-2A	No	No
IW-2B	No	No
IW-3	No	Yes (Meadow Creek)
IW-4	No	No
IW-5A	No	Yes (Arroyo Grande Creek)
IW-5B	No	Yes (Arroyo Grande Creek)
MW-1A/1B	No	No
MW-1C/1D	No	No
MW-2A/2B/2C	No	No
MW-2D/2E/2F	No	No
MW-3A/3B	No	No
MW-3D/3E	No	No
MW-4A/4B	No	No
MW-4C/4D	No	No
MW-5A/5B/5C	No	Yes (Arroyo Grande Creek)
MW-5D/5E/5F	No	No
ATF	No	No
Water Distribution Pipelines	No	Yes (Meadow Creek)

NWI = National Wetlands Inventory; IW= injection well; MW= monitoring well; ATF=advanced treatment facility

Source: Appendix D

Figure 4.2-9 Surface Waters in the Project Area

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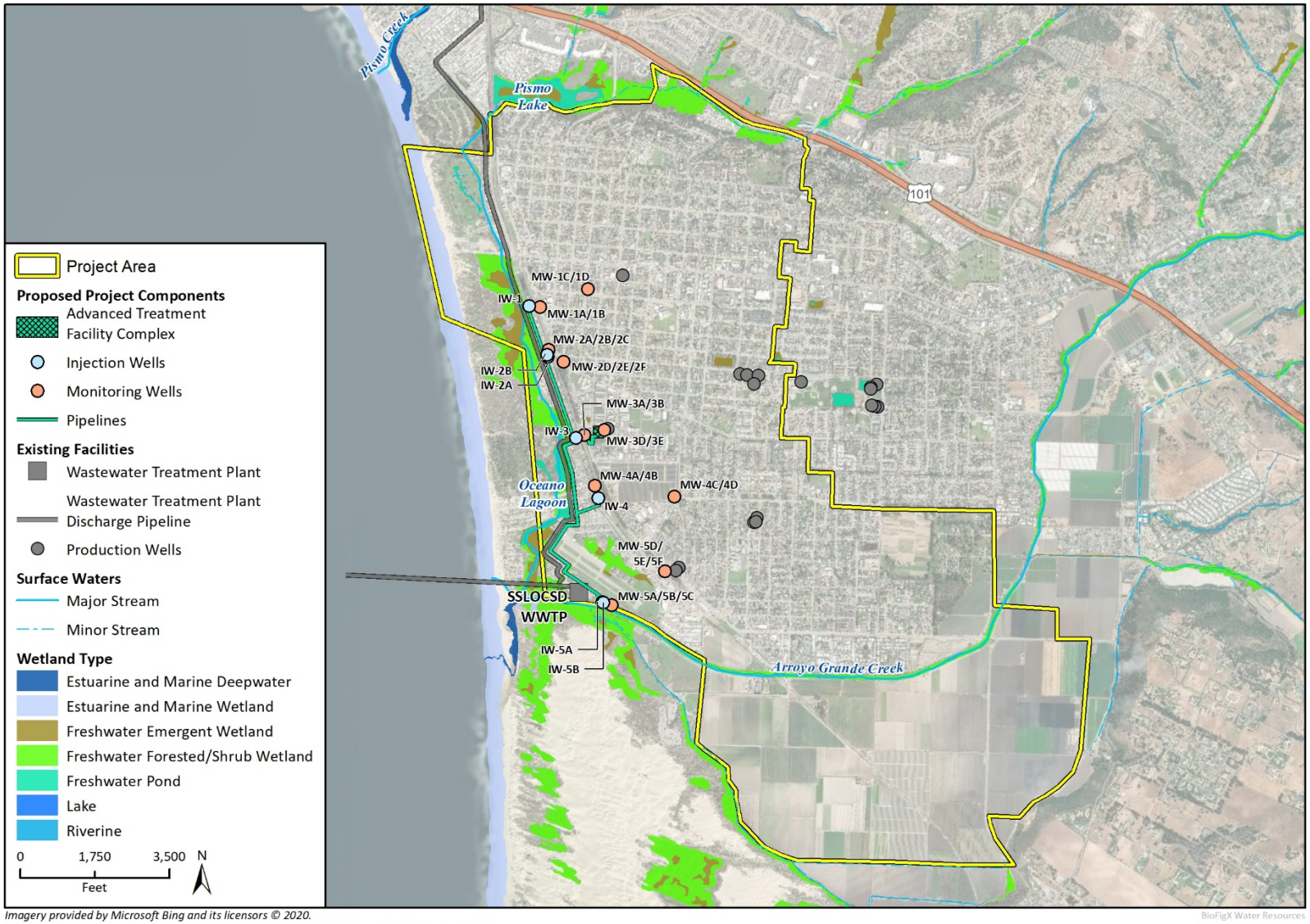
Additional data provided by U.S. Geological Survey, 2019.

Hydro Fig 4_8-2 Surface Waters

Figure 4.2-10 Wetlands and Drainages within the Project Area



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Additional data provided by U.S. Geological Survey, 2019 and U.S. Fish and Wildlife Service, 2017.

During the reconnaissance survey, in addition to those drainages and wetlands mapped by the NWI, a roadway drainage and a detention basin were also observed. The roadway drainage was observed adjacent to SR 1 and Pismo State Beach Road within 100 feet of the proposed location of the water distribution pipelines. The drainage begins at the intersection of SR 1 and Pismo State Beach Road and drains at a southwest direction towards Oceano Lagoon. The roadway drainage is ephemeral and only conveys water during rain events. The drainage contained a vegetated bed lacking a defined ordinary high water mark. The banks were also vegetated, and the distance between top of banks was approximately two feet wide. The overstory consisted of arroyo willows (*Salix lasiolepis*) and coast live oak (*Quercus agrifolia*), and the understory consisted of non-native grasses including ripgut brome (*Bromus diandrus*). A detention basin was observed adjacent to South 13th Street, where MW-4C/4D is proposed. The detention basin is excavated in uplands and has no connectivity to any drainages or streams. The basin contained non-native, upland vegetation along the basin and banks, and no evidence of water was observed. The detention basin is a City of Grover Beach stormwater detention basin, but based on historical aerials, this basin has not held water for an extended period of time (Appendix D).

Additionally, a potential approximately 0.04-acre wetland feature is located in the southern section project area within the Oceano County Airport and was observed during the reconnaissance survey within 100 feet of the proposed water distribution pipeline alignment (see Figure 4.2-6). No formal wetland delineation was conducted at this location. This feature may potentially be under the jurisdiction(s) of USACE, Central Coast RWQCB, CDFW, and/or County of San Luis Obispo. Additional wetlands or waters, if discovered within project area, would require evaluation as potentially subject to local, CDFW, RWQCB, and/or USACE jurisdiction(s).

f. Wildlife Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a habitat connection between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, although dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending on the species using a given corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large and small in scale. Regionally, the project area is not located within an Essential Connectivity Area as mapped in the report *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (CDFW 2010). Essential Connectivity Areas represent principle connections between Natural Landscape Blocks. Essential Connectivity Areas are regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. Essential Connectivity Areas are mapped

based on coarse ecological condition indicators, rather than the needs of particular species and thus serve the majority of species in each region.

g. Resources Protected by Local Policies and Ordinances

Any native trees proposed for removal associated within the project site are subject to the permit and approval requirements included in Sections 23.05.060, 23.05.062, and 23.05.060 of the San Luis Obispo County Coastal Zone Land Use Ordinance. Native trees including arroyo willow and Monterey cypress can be found within the injection wells, monitoring wells and water distribution pipeline locations. In addition, the County of San Luis Obispo and City of Grover Beach LCPs as well as San Luis Obispo County Coastal Zone Land Use Ordinance include Policies and Ordinances which regulate activities within and adjacent to ESHA (see Section 4.2.1[h] for a summary of policies related to ESHA). Currently, the City of Grover Beach and County of San Luis Obispo LCPs and associated ordinances require a 50-foot and 100-foot setback, respectively, from ESHA.

Wildlife movement and connectivity are currently constrained in the project area by existing developed urban areas within and surrounding the project site. Project components with known locations would be placed in previously developed areas along the SR 1 corridor, in public roadway rights-of-way, in an industrial area of Grover Beach, and in the existing SSLOCSD WWTP. Development in the project site would not create new barriers to an existing corridor since ground movement of wildlife is already constrained by significant development in and surrounding the project.

h. Regulatory Setting

Federal, State, and local authorities under a variety of statutes and guidelines share regulatory authority over biological resources. The primary authority under CEQA for general biological resources lies within the land use control and planning authority of local jurisdictions, which in this instance is a combination of the County of San Luis Obispo, the City of Grover Beach, and the City of Pismo Beach. The CDFW is a both a trustee agency and responsible agency for biological resources throughout the state under CEQA and also has direct jurisdiction under the California Fish and Game Code (CFGC), which includes, but is not limited to, resources protected by the State of California under the California Endangered Species Act. The following subsections summarize the federal, State, and local regulations that form the regulatory basis for the impact analysis in Section 4.2.2, *Impact Analysis*.

Federal Regulations

Federal Endangered Species Act

Under the federal Endangered Species Act, authorization is required to "take" a listed species. Take is defined under federal Endangered Species Act Section 3 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulation (50 Code of Federal Regulations Sections 17.3, 222.102); "harm" is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Critical habitat is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. Federal Endangered Species Act Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat.

The USFWS and NMFS share responsibility and regulatory authority for implementing the federal Endangered Species Act (7 United States Code Section 136, 16 United States Code Section 1531 et seq.).

Federal Endangered Species Act Section 7(a)(2) and its implementing regulations require federal agencies to consult with USFWS or NMFS to ensure they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under federal Endangered Species Act Section 10(a). Section 10(a) allows USFWS to permit the incidental take of listed species if such take is accompanied by a Habitat Conservation Plan that includes components to minimize and mitigate impacts associated with the take.

Migratory Bird Treaty and Bald and Golden Eagle Protection Acts

The Migratory Bird Treaty Act authorizes the Secretary of the Interior to regulate the taking of migratory birds. The Act provides that it is unlawful, except as permitted by regulations, "to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, […] any migratory bird, or any part, nest, or egg of any such bird" (16 United States Code Section 703[a]). In addition, the Bald and Golden Eagle Protection Act is the primary law protecting eagles, including individuals and their nests and eggs. The USFWS implements the Migratory Bird Treaty Act (16 United States Code Section 703-711) and the Bald and Golden Eagle Protection Act (16 United States Code Section 668). Under the Bald and Golden Eagle Protection Act's Eagle Permit Rule (50 Code of Federal Regulations 22.26), USFWS may issue permits to authorize limited, non-purposeful take of bald eagles and golden eagles.

Section 10 of the River and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through the USACE, for the construction of any structure in or over any navigable water of the United States. Regulated activities include dredging or disposal of dredged materials, excavation, filling, re-channelization and construction of any structure or any other modification of a navigable water of the United States.

Clean Water Act

Under Section 404 of the Clean Water Act (CWA), the USACE, with oversight by the United States Environmental Protection Agency (USEPA), has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. In achieving the goals of the CWA, the USACE seeks to avoid adverse impacts and to offset unavoidable adverse impacts on existing aquatic resources. Any discharge of dredged or fill material into jurisdictional wetlands or other jurisdictional waters of the United States requires a Section 404 permit from the USACE prior to the start of work. In 2008, the USEPA and the USACE, through a joint rulemaking, expanded the CWA Section 404(b)(1) guidelines to include more comprehensive standards for compensatory mitigation. These standards include ensuring that unavoidable impacts subject to regulation under the CWA are mitigated through replacement to promote no net loss of wetlands. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetlands is met by compensatory mitigation. In general, the type and location options for compensatory mitigation should comply with the hierarchy established by the

USACE/USEPA 2008 Mitigation Rule (in descending order): (1) mitigation banks; (2) in-lieu fee programs; and (3) permittee-responsible compensatory mitigation. Also, in accordance with CWA Section 401, applicants for a Section 404 permit must obtain water quality certification from the appropriate RWQCB.

The USACE, RWQCB, and CDFW typically have jurisdiction over wetlands that exhibit three parameters: suitable wetland hydrology, hydric soils, and hydrophytic vegetation. The RWQCB also considers features with saturated, anaerobic-condition wetlands to be under its jurisdiction.

State Regulations

California Endangered Species Act

The California Endangered Species Act (CFGC Section 2050 et seq.) prohibits take of state-listed threatened and endangered species without a CDFW incidental take permit. "Take" under the California Endangered Species Act is defined as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" and is therefore restricted to direct harm of a listed species. Take under the California Endangered Species Act does not prohibit indirect harm by way of habitat modification (CFGC Section 86).

Requirements for the protection of fully protected species are described in CFGC Sections 3511, 4700, 5050 and 5515. These statutes prohibit take or possession of fully protected species. Incidental take of fully protected species may be authorized under an approved Natural Community Conservation Plan.

California Fish and Game Code sections 3503, 3503.5 and 3511

CFGC Sections 3503, 3503.5 and 3511 describe unlawful take, possession, or destruction of birds, nests and eggs. Fully protected birds described under CFGC Section 3511 may not be taken or possessed except under specific permit. CFGC Section 3503.5 protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Native Plant Protection Act

The CDFW has authority to administer the Native Plant Protection Act (CFGC Section 1900 et seq.). The Act requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Native Plant Protection Act Section 1913(c), the owner of land where a rare or endangered native plant is growing is required to notify the CDFW at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

California Fish and Game Code Section 1600 et seq.

CFGC Section 1600 et seq. prohibits the substantial diversion or obstruction of the natural flow of, or substantial change to or use of any material from the bed, channel, or bank of any river, stream, or lake; or deposit or disposal of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake without prior notification to CDFW. In order for these activities to occur lawfully, the CDFW must receive written notification regarding the activity in the prescribed manner and may require a lake or streambed alteration agreement. Lakes, ponds, perennial and intermittent streams and associated riparian vegetation, when present, are subject to this regulation.

Natural Community Conservation Planning Act

The Natural Communities Conservation Planning Act is directed by the CDFW and implemented by the State as well as by public and private partnerships as a means to protect habitat in California. The Act takes a regional approach to preserving habitat. Under this Act, a Natural Community Conservation Plan identifies and provides for the regional protection of plants, animals and their habitats, while allowing compatible and appropriate economic activity. Once a Natural Community Conservation Plan has been approved, the CDFW may provide take authorization for all covered species, including fully protected species, under CFGC Section 2835.

Porter-Cologne Water Quality Control Act

The SWRCB and each of nine local RWQCBs has jurisdiction over "waters of the State", which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state pursuant to the Porter-Cologne Water Quality Control Act. The SWRCB has issued general Waste Discharge Requirements regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the USACE to be Outside of Federal Jurisdiction). In the project area, the Central Coast RWQCB implements this general order for isolated waters not subject to federal jurisdiction and is also responsible for the issuance of water quality certifications pursuant to CWA Section 401 for waters subject to federal jurisdiction.

California Coastal Act

In October 1972, the United States Congress passed Title 16 United States Code 1451-1464, which established a federal coastal zone management policy and created a federal coastal zone. By that legislation, the Congress declared a national interest in the effective management, beneficial use, protection and development of the coastal zone in order to balance the nation's natural, environmental and aesthetic resource needs with commercial-economic growth. The Congress found and declared that it was a national policy "to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and aesthetic values as well as to the need for economic development" (16 United States Code 1452b). As a result of this, coastal states were provided a policy and source of funding for the implementation of federal goals.

The California Coastal Zone Conservation Act of 1972 (Proposition 20) was a temporary measure passed by the voters of the state as a ballot initiative. It set up temporary regional Coastal Commissions with permit authority and a directive to prepare a comprehensive coastal plan. The coastal commissions under Proposition 20 lacked the authority to implement the Coastal Plan but were required to submit the Plan to the legislature for "adoption and implementation."

The California Coastal Act of 1976 is the permanent enacting law approved by the State legislature. The Coastal Act established a different set of policies, a different boundary line, and different permitting procedures than Proposition 20. Furthermore, it provides for the transfer of permitting authority, with certain limitations reserved for the State, to local governments through adoption and certification of LCPs by the Coastal Commission.

California Ocean Plan

The California Ocean Plan is one of five statewide water quality control plans established by the SWRCB (2019) to preserve and enhance California's territorial ocean waters for the use and enjoyment of the public. The Ocean Plan provides control for the discharge of waste to ocean waters and ensures the protection of beneficial uses of ocean waters. Discharge of waste can include stormwater runoff, municipally-treated sewage outflow, and other discharges by industry under RWQCB and SWRCB permits. The Ocean Plan sets forth water quality objectives (WQOs) for protection of marine aquatic life as well as objectives for bacterial, physical, chemical, and biological characteristics for ocean waters.

The Ocean Plan is reviewed every three years to guarantee its WQOs are adequate to prevent degradation of marine species and protect public health. The Ocean Plan was first adopted by the SWRCB on July 6, 1972 and has been amended five times since it was last reviewed in 2011. The most recent amendment to the Ocean Plan was in 2019 to incorporate revised statewide bacteria WQOs and implementation options to protect recreational users from the effects of pathogens (SWRCB 2019).

The WQOs in the Ocean Plan are applicable to all point source discharges to the ocean, including effluent from the Pismo Beach and SSLOCSD WWTPs. The effluent limits are imposed such that the Ocean Plan WQOs are not exceeded in the receiving water upon completion of initial dilution. If a conflict exists between the Ocean Plan WQOs and the National Pollutant Discharge Elimination System (NPDES) permit effluent limits, the more stringent provision applies.

Local Regulations

City of Grover Beach Local Coastal Plan and Municipal Code

The City of Grover Beach's Local Coastal Plan (2014) outlines the goals in protecting biological resources under the California Coastal Act, which include the following:

- **Meadow Creek (Western Branch) Policy 5.** That there shall be a minimum of a 50-foot buffer, or other appropriate buffer established by a habitat restoration plan approved by the Department of Fish and Game, on both sides of the portion of Meadow Creek north of Grand Avenue. The purpose of this buffer is to protect and enhance the habitat values and filtration capabilities of Meadow Creek while recognizing that for most of its length north of Grand Avenue there is existing development on both sides of the creek.
- **General Policy 3.** The City shall preserve and protect wetland resources including creeks and other seasonal wetland areas in conformance with Coastal Act Sections 30233 and 30236; all adverse impacts to riparian resources from any allowable development within wetlands or streams shall be fully mitigated.
- **General Policy 5.** ESHA shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
- **General Policy 6.** ESHA shall be buffered by a minimum of 50 feet. Development in areas adjacent to ESHA shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Grover Beach Municipal Code (GBMC) Section 3.10.070 states that all structures adjacent to ESHA shall have a minimum 50 foot setback.[1]

County of San Luis Obispo General Plan and Coastal Zone Land Use Ordinance

The County's (2010) General Plan Conservation and Open Space Element outlines goals and policies that aim to preserve biodiversity, sustain healthy ecosystems, enhance degraded habitats, and protect the diverse landscapes throughout the county. Major goals include protecting special status species, protecting and enhancing native habitat, and preserving wetlands and aquatic habitats (including fisheries and marine resources).

Policies regarding biological resource protection include:

- **Policy BR 3.1 - Native Tree Protection.** Protect native and biologically valuable trees, oak woodlands, trees with historical significance, and forest habitats to the maximum extent feasible.
- **Policy BR 3.2 - Protection of Native Trees in New Development.** Require proposed discretionary development and land divisions to avoid damage to native trees (e.g., Monterey Pines, oaks) through setbacks, clustering, or other appropriate measures. When avoidance is not feasible, require mitigation measures.

The County's Coastal Zone Land Use Ordinance was certified by the CCC in 1986 pursuant to Section 30519.5 of the Coastal Act and was most recently revised in April 2019. The ordinance, contained in San Luis Obispo County Code (SLOCC) Title 23, outlines the identification and protection of ESHA including:

- **SLOCC Section 23.05.034 - Grading Adjacent to Environmentally Sensitive Habitats.** Grading shall not occur within 100 feet of any Environmentally Sensitive Habitat except:
  - Where a setback adjustment has been granted as set forth in SLOCC Sections 23.07.172d(2) (Wetlands) or 23.07.174d(2) (Streams and Riparian Vegetation); or
  - Within an urban service line when grading is necessary to locate a principally permitted use and where the approval body can find that the application of the 100-foot setback would render the site physically unsuitable for a principally permitted use. In such cases, the 100-foot setback shall only be reduced to a point where the principally-permitted use, as modified as much as practical from a design standpoint, can be located on the site. In no case shall grading occur closer than 50 feet from the Environmentally Sensitive Habitat or as allowed by planning area standard, whichever is greater.

SLOCC Section 23.07.172 includes requirements for development proposed within or adjacent to (within 100 feet of the upland extent of) a wetland area shown on the Environmentally Sensitive Habitat Maps (see Figure 4.2-11 for areas mapped with the Wetlands combining designation). The following provisions would be applicable to the proposed project:

- **SLOCC Section 23.07.172 - Wetland Setbacks(d).** New development in areas within the Wetlands combining designation shall be located a minimum of 100 feet from the upland extent of all wetlands, except as provided by subsection d(2). If the biological report determines that such setback will provide an insufficient buffer from the wetland area, and the applicable approval body cannot make the finding, then a greater setback may be required.

[1] GBMC Section 9.10.020 defines "structure" as anything constructed or erected, the use of which requires attachment to the ground, attachment to something located on the ground, or placement on the ground.

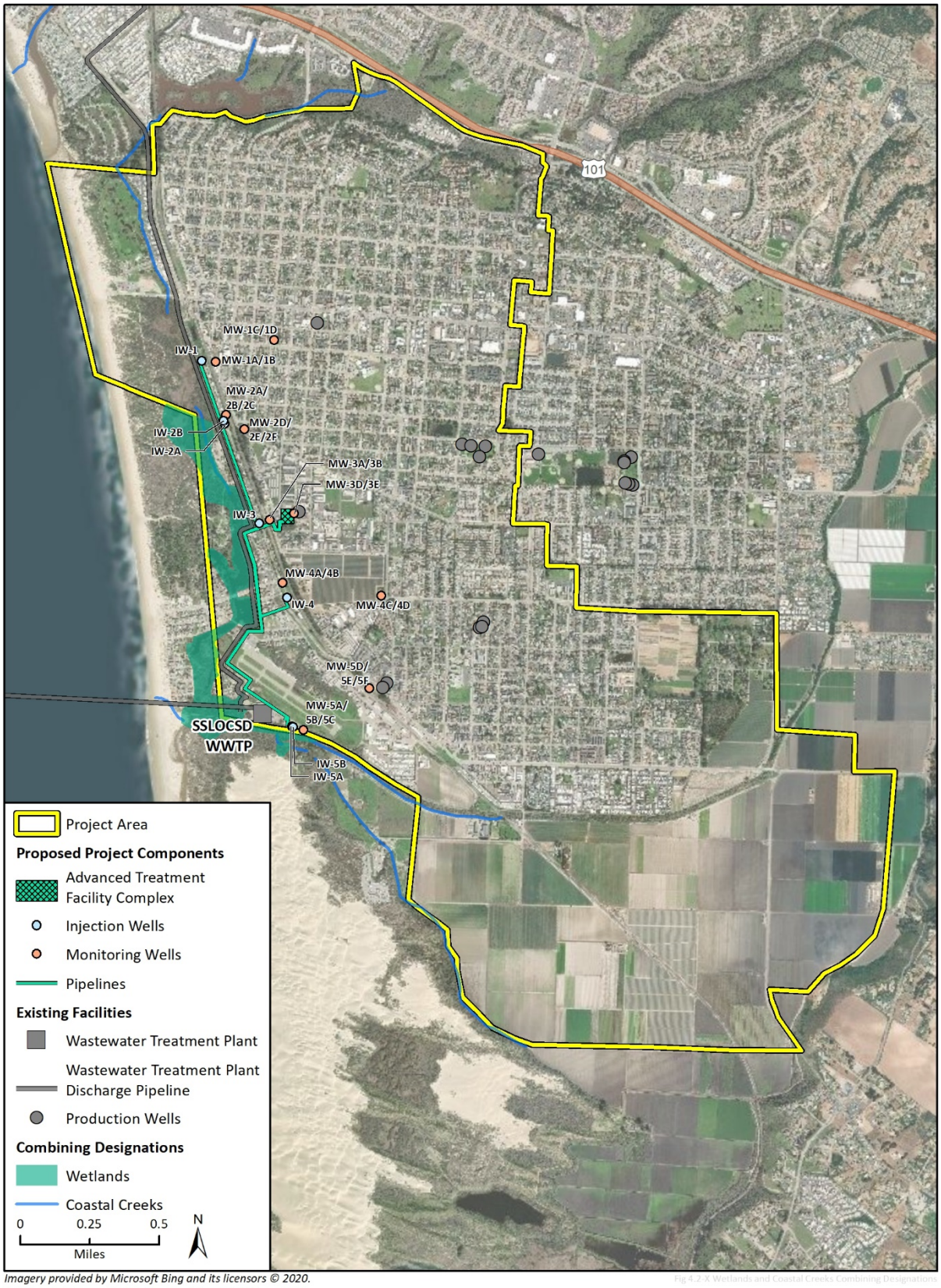
- **Permitted uses within wetland setbacks**: Within the required setback buffer, permitted uses are limited to passive recreation, educational, existing non-structural agricultural development in accordance with best management practices, utility lines, pipelines, drainage and flood control of facilities, bridges and road approaches to bridges to cross a stream and roads when it can be demonstrated that:
  - Alternative routes are infeasible or more environmentally damaging.
  - Adverse environmental effects are mitigated to the maximum extent feasible.
- **Wetland setback adjustment**: The minimum wetland setback may be adjusted through Minor Use Permit approval (but in no case shall be less than 25 feet), provided that the following findings can be made:
  - The site would be physically unusable for the principal permitted use unless the setback is reduced.
  - The reduction is the minimum that would enable a principal permitted use to be established on the site after all practical design modifications have been considered.
  - That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to SLOCC Section 23.04.118a.
- **Requirements for wetland setback adjustment:** Setbacks established that are less than 100 feet consistent with this section shall include mitigation measures to ensure wetland protection. Where applicable, they shall include landscaping, screening with native vegetation and drainage controls. The adjustment shall not be approved until the approval body considers the following:
  - Site soil types and their susceptibility to erosion.
  - A review of the topographic features of the site to determine if the project design and site location has taken full advantage of natural terrain features to minimize impacts on the wetland.
  - The biologists report required by SLOCC Section 23.07.170 shall evaluate the setback reduction request and identify the types and amount of vegetation on the site and its value as wildlife habitat in maintaining the functional capacity of the wetland.
  - Type and intensity of proposed development.
  - Lot size and configuration and location of existing development.

SLOCC Section 23.07.174 includes requirements for development proposed within or adjacent to coastal streams and adjacent riparian areas (see Figure 4.2-11 for areas mapped with the Coastal Creeks combining designation). The following provisions would be applicable to the proposed project:

- **SLOCC Section 23.07.174(d) - Riparian Vegetation Setbacks.** New development shall be set back from the upland edge of riparian vegetation the maximum amount feasible. In the urban areas (inside the urban reserve line), this setback shall be a minimum of 50 feet. In the rural areas (outside the urban reserve line) this setback shall be a minimum of 100 feet.[2] A larger setback will be preferable in both the urban and rural areas depending on parcel configuration, slope,

[2] An urban reserve line is a boundary separating urban/suburban land uses and rural land uses. Urban reserve lines are delineated in the San Luis Obispo County General Plan Land Use Element Frameworks for Planning (County of San Luis Obispo 2015 and 2018).

Figure 4.2-11 Wetlands and Coastal Creeks Combining Designations



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Additional data provided by County of San Luis Obispo, 2019.

Fig 4.2-X Wetlands and Coastal Creeks Combining Designations

vegetation types, habitat quality, water quality, and any other environmental consideration. These setback requirements do not apply to non-structural agricultural developments that incorporate adopted nest management practices in accordance with LUP Policy 26 for Environmentally Sensitive Habitats.

- **Permitted uses within the setback:** Permitted uses are limited to those specified in Section 23.07.172d(1) (for wetland setbacks), provided that the findings required by that section can be made. Additional permitted uses that are not required to satisfy those findings include pedestrian and equestrian trails, and non-structural agricultural uses.

  All permitted development in or adjacent to streams, wetlands, and other aquatic habitats shall be designed and/or conditioned to prevent loss or disruption of the habitat, protect water quality, and maintain or enhance (when feasible) biological productivity. Design measures to be provided include, but are not limited to:

  - Flood control and other necessary instream work should be implemented in a manner than minimizes disturbance of natural drainage courses and vegetation.
  - Drainage control methods should be incorporated into projects in a manner that prevents erosion, sedimentation, and the discharge of harmful substances into aquatic habitats during and after construction.

- **Riparian habitat setback adjustment:** The minimum riparian setback may be adjusted through Minor Use Permit approval, but in no case shall structures be allowed closer than 10 feet from a stream bank, and provided the following findings can first be made:
  - Alternative locations and routes are infeasible or more environmentally damaging; and
  - Adverse environmental effects are mitigated to the maximum extent feasible; and
  - The adjustment is necessary to allow a principal permitted use of the property and redesign of the proposed development would not allow the use with the standard setbacks; and
  - The adjustment is the minimum that would allow for the establishment of a principal permitted use.

- **SLOCC Section 23.07.174(e) – Alteration of Riparian Vegetation.** Cutting or alteration of natural riparian vegetation that functions as a portion of, or protects, a riparian habitat shall not be permitted except:
  - For streambed alterations allowed by SLOCC Section 23.07.174(a) and (b).
  - Where an issue of public safety exists.
  - Where expanding vegetation is encroaching on established agricultural uses.
  - Minor public works projects, including but not limited to utility lines, pipelines, driveways and roads, where the Planning Director determines no feasible alternative exists.
  - To increase agricultural acreage provided that such vegetation clearance will:
    - Not impair the functional capacity of the habitat.
    - Not cause significant streambank erosion.
    - Not have a detrimental effect on water quality or quantity.
    - Be in accordance with applicable permits required by the Department of Fish and Game.
  - To locate a principally permitted use on an existing lot of record where no feasible alternative exists and the findings of SLOCC Section 23.07.174d(2) can be made.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Impacts from development of the project components with known locations were assessed based on information provided in Section 2, *Project Description*. The survey methodologies used in the analysis of biological resources are detailed in the Central Coast Blue Biological Resources Assessment included as Appendix D. To evaluate the potential impacts of project components with unknown locations, the following assumptions were made:

- Agricultural irrigation distribution pipelines would be constructed from the ATF complex south across Arroyo Grande Creek to agricultural lands located generally south of Oceano, and augur boring or horizontal directional drilling methods would be used to install pipelines under Arroyo Grande Creek.
- The new production well would have fairly similar direct and indirect impacts from construction as the injection and monitoring wells (i.e., similar ground disturbance and construction activities).

Significance Thresholds

In accordance with Appendix G of the CEQA Guidelines, an impact related to biological resources would be significant if the proposed project would:

- 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 CDFW or USFWS
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project 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 CDFW or USFWS?

Impact BIO-1 THE PROPOSED PROJECT WOULD RESULT IN DIRECT AND INDIRECT IMPACTS TO SPECIAL STATUS SPECIES, IF PRESENT. FOLLOWING IMPLEMENTATION OF MITIGATION MEASURES BIO-1(A) THROUGH BIO-1(K), IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Injection Wells, Monitoring Wells, Water Distribution Pipelines, ATF Complex, and Reverse Osmosis Concentrate Discharge

The following subsections discuss potential impacts to the one special status plant species and five special status animal species that have potential to occur at the injection well, monitoring well, ATF complex, and water distribution pipeline locations. During the reconnaissance-level surveys, no special status species were observed at any of the known locations of project components or elsewhere in the survey area (Appendix D).

Special Status Plants

BLACK-FLOWERED FIGWORT

The majority of project impacts would occur on previously disturbed or iceplant mat habitat outside the limits of riparian habitats. However, black-flowered figwort has the potential to occur within the water distribution pipeline alignments in the Oceano County Airport property based on the presence of suitable habitat, specifically arroyo willow riparian habitat. In addition, IW-5A, IW-5B, and MW-5A/5B/5C would be located in close proximity to suitable habitat for black-flowered figwort. Direct impacts from project construction would include ground-disturbing activities that could result in removal of the species, if present. Indirect impacts would occur if construction equipment inadvertently transports residual plant material from other construction sites (e.g., seeds of invasive plant species carried to the site within the undercarriage or tires of heavy equipment that has not been cleaned thoroughly between construction sites), which could lead to the spread of invasive, non-native species from construction equipment. Invasive, non-native plant species can out-compete native species and/or alter habitat towards a state that is unsuitable for the survival of special status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats through displacement of vital pollinators or through competition with native plants for space, water and light.

The project footprint of the injection wells, monitoring well, and water distribution pipelines would be relatively small, and the impacts associated with construction would be primarily temporary in nature. Furthermore, the injection wells, monitoring wells, and the water distribution pipelines would be located along edges of larger habitat blocks for this species. Therefore, only a relatively small number of black-flowered figworts, if any, would be impacted in comparison to the population that could inhabit the remaining regionally-occurring suitable habitat associated with Arroyo Grande Creek. Therefore, construction of the injection wells, monitoring wells and water distribution pipelines would not be expected to remove or degrade habitat to such an extent as to cause a downward trend in the species population range-wide or cause a restriction in the species range that would lead to a federal or state listing. In addition, all injection wells, some monitoring wells and most

water distribution pipelines would be located within the Coastal Zone, where arroyo willow riparian habitat associated with Arroyo Grande Creek would be considered ESHA pursuant to the County of San Luis Obispo and City of Grover Beach LCPs. Furthermore, the project would be required to site all project components and associated construction areas in accordance with the ESHA setback requirements of the applicable jurisdiction, thereby minimizing impacts to the species. Therefore, impacts to black-flowered figwort related to construction and operation of the injection wells, monitoring wells, and water distribution pipelines would be less than significant.

Special Status Animals

CALIFORNIA RED-LEGGED FROG

CRLFs have the potential to occur in and adjacent to Arroyo Grande Creek and therefore have the potential to be present within the limits of the IW-5A, IW-5B, MW-5A/5B/5C, and water distribution pipeline alignments adjacent to Arroyo Grande Creek. Encounters with CRLF would be limited to dispersing and foraging adults and sub-adults and would be dependent upon favorable weather conditions (e.g., during rain events or other times with elevated moisture levels). No impacts to eggs or tadpoles would occur because all injection well locations are located in upland areas. However, if CRLF individuals are present within the project locations, potential direct impacts would occur during project construction and/or during ground disturbing maintenance activities if harassment, injury, or mortality of CRLF individuals occurs. Indirect impacts to CRLF would also result from general project-related disturbance and noise in the vicinity of these well locations that may impact normal breeding and dispersal patterns for the species in the area. No impacts to breeding habitat would occur because all injection well, monitoring well, and water distribution pipeline locations are located in upland areas. Given the potential for direct and indirect impacts to CRLF individuals as well as direct impacts to CRLF habitat, impacts to CRLF from construction and operation of the injection wells, monitoring wells, and water distribution pipelines would be potentially significant. Implementation of Mitigation Measures BIO-1(a) and BIO-1(b), which include avoidance of CRLF habitat and implementation of avoidance and minimization measures for CRLF during construction activities, would be required to reduce impacts to a less-than-significant level.

CALIFORNIA LEGLESS LIZARD

California legless lizards have the potential to occur in native or non-native vegetation and therefore have the potential to be present within the limits of all project components with known locations. Direct impacts, including mortality, to California legless lizard could occur during ground-disturbing construction and maintenance activities (e.g., grading, excavation, and trenching) at all injection well locations. Considering the marginal quality of the habitat at the injection wells, monitoring wells, water distribution pipelines and the ATF complex locations as well as the largely temporary nature of impacts associated with construction activities, only a small number of California legless lizards, if any, would be directly impacted compared to the size of the regional population in native habitats. Based on these factors, impacts resulting from the proposed project are not expected to cause a downward trend in the species population at a local or regional level or cause a restriction in the species range that would lead to a federal or state listing. Therefore, impacts to California legless lizard related to construction and operation of the injection wells, monitoring wells, water distribution pipelines, and the ATF complex would be less than significant.

SOUTHWESTERN POND TURTLE

Southwestern pond turtle have the potential to occur in and adjacent to Arroyo Grande Creek and therefore have the potential to be present within the limits of IW-5A, IW-5B, MW-5A/5B/5C, and portions of the water distribution pipeline alignments adjacent to Arroyo Grande Creek. Potential direct impacts to southwestern pond turtle include destruction of nests as well as harassment, injury, and mortality of individuals if they are present during construction activities. Due to the potential for impacts to individual turtle nest sites, that would impact the reproductive success of the local and regional population, impacts to southwestern pond turtle from construction of the injection wells, monitoring wells, and water distribution pipelines would be potentially significant. Implementation of Mitigation Measure BIO-1(c), which includes implementation of avoidance and minimization measures for southwestern pond turtle during construction activities, would be required to reduce impacts to a less-than-significant level.

OVERWINTERING POPULATION OF MONARCH BUTTERFLY

California overwintering population of monarch butterfly has the potential to occur within the eucalyptus grove directly south of the ATF complex. Encounters with monarch butterflies would be limited to foraging adults dependent upon sunny weather conditions between October and February. No impacts to the eucalyptus grove would occur due to the grove being located outside the ATF complex footprint. No direct impacts to monarch butterfly due to their mobility or their overwintering habitat is anticipated. Implementation of Mitigation Measure BIO-1(d), which includes implementation of avoidance and minimization measures for overwintering monarch butterflies during construction activities, would be required. At this time, monarch overwintering has not been confirmed at the eucalyptus grove in the vicinity of the proposed ATF complex; therefore, this area would not be currently considered ESHA. If monarch butterflies are detected during implementation of Mitigation Measure BIO-1(d) and it is confirmed the trees are being used as overwintering habitat the project would be required to site all project components and associated construction areas in accordance with the ESHA setback requirements in the City of Grover Beach LCP and GBMC, thereby minimizing impacts to overwintering monarch butterfly habitat. Therefore, impacts to overwintering monarch butterflies related to construction and operation of the ATF complex would be less than significant with implementation of Mitigation Measure BIO-1(d).

NESTING BIRDS AND SPECIAL STATUS BIRDS (INCLUDING TRI-COLORED BLACKBIRD AND WHITE-TAILED KITE)

In addition to the special status animal species discussed above, several bird species protected by the CFGC may also nest in trees and shrubs within or in close proximity to the known locations of project components. One State Fully Protected bird species (white-tailed kite) and one bird species listed as a State Threatened/SSC (tri-colored blackbird) also have the potential to occur at all known locations of project components based on the presence of potentially suitable habitat. Impacts to tri-color blackbird are unlikely given that the injection well, monitoring well, water distribution pipeline, and ATF complex locations and immediate surroundings only provide foraging habitat for the species. Therefore, no direct or indirect impacts to tri-color blackbird nesting would occur. However, direct impacts to nesting birds of other species, including white-tailed kite, may occur due to removal or trimming of trees, shrubs, and other nesting substrates that may contain active nests. Indirect impacts to nesting birds may also occur during construction activities in the vicinity of an active nest resulting from distress to adults and disruption of nesting behavior due to construction noise that may lead to nest abandonment or failure. Therefore, impacts to nesting birds, including the white-tailed kite, from construction of the known locations of project components would be potentially significant.

Implementation of Mitigation Measure BIO-1(e), which includes implementation of avoidance and minimization measures for nesting birds during construction activities, would be required to reduce impacts to a less-than-significant level.

SOUTHERN SEA OTTER

Southern sea otter has a low potential to occur near the discharge point of the existing ocean outfall pipeline in the Pacific Ocean. As discussed in Section 4.8, *Hydrology/Water Quality*, the project would alter the volume and quality of water discharged through the existing ocean outfall, resulting in an incrementally higher concentration (but not volume) of salinity and other constituents in the effluent. The reverse osmosis process at the proposed ATF complex would produce a concentrate that would contain a higher concentration of the dissolved particles than the source water flow. This concentrate will ultimately be mixed with the remaining secondary effluent and discharged to the ocean through the existing ocean outfall that currently receives all the flow from the Pismo Beach and SSLOCSD WWTPs. The concentrate from the reverse osmosis process would be substantially diluted by mixing with remaining effluent, and the resulting secondary effluent ocean discharge would be significantly less saline than ocean water or effluent discharge from ocean desalination facilities. The ocean discharge would continue to be regulated by the State Water Resources Control Board under the Pismo Beach and SSLOCSD WWTP's NPDES permits, which include effluent limitations for protection of marine aquatic life. Furthermore, the pipeline outfall is not located in a kelp forest, which sea otters are dependent on; therefore, no direct impact to southern sea otter is anticipated. Southern sea otters may migrate near the discharge point to feeding areas to the north or to the south; however, the change in water salinity output is not expected to cause an impact to the species given compliance with NPDES permit limitations. Therefore, impacts to southern sea otter would be less than significant.

STEELHEAD - SOUTH-CENTRAL CALIFORNIA COAST DISTINCT POPULATION SEGMENT

Steelhead has a low potential to occur near the discharge point of the existing ocean outfall pipeline in the Pacific Ocean. No suitable freshwater migration or spawning habitat occurs within the project area. Arroyo Grande Creek, located approximately 50 feet south of the project area, contains suitable habitat for the species; however, an earthen levee separates the project area from the creek. Meadow Creek and Oceano Lagoon, located more than 100 feet west and south of the project area, are also isolated from the project area due to existing roadways and development. The species may migrate near the discharge point of the existing ocean outfall pipeline in the ocean during migration towards Arroyo Grande Creek. The project would alter the volume and quality of water discharged through the existing ocean outfall, resulting in an incrementally higher concentration (but not volume) of salinity and other constituents in the effluent. However, as discussed under *Southern Sea Otter* above, the secondary effluent ocean discharge would be required to comply with the existing Pismo Beach and SSLOCSD WWTP's NPDES permits, which include effluent limitations for protection of marine aquatic life. As a result, the change in water salinity output is not expected to cause a disruption of migration to the spawning sites. Therefore, impacts to steelhead would be less than significant.

Agricultural Irrigation Pipelines and Production Well

Because the locations of the agricultural irrigation pipelines and production well are not known at this time, some of the other 58 special status plant species (in addition to black-flowered figwort) and 26 special status animal species (in addition to tri-colored blackbird, white-tailed kite, CRLF, California legless lizard, southwestern pond turtle, and steelhead) known to or having the potential to occur within the vicinity of the project area as listed in Appendix D could have some potential to occur.

However, not all project components with unknown locations have the same potential for impacts to special status species. Agricultural irrigation pipelines between the ATF complex and agricultural lands south of Oceano would have the highest likelihood of impacting special status species habitats. General direct and indirect impacts from ground-disturbing construction activities associated with project components with unknown locations would include mortality, injury, harassment, and reduction of reproductive success. There is the potential to impact undisturbed habitat in the Grover Beach city boundaries, as well as along Arroyo Grande Creek (which is also federally designated critical habitat for steelhead) and south for irrigation pipelines to farmland areas. The new production well would have the lowest likelihood of impacting special status species habitats due to the high likelihood that it would be sited in a heavily-developed area with little to no native habitat.

Direct impacts to special status species include injury or mortality occurring during implementation and/or operation of project components with unknown locations. Direct impacts also include habitat modification and loss such that it results in the mortality or otherwise alters the foraging and breeding behavior substantially enough to cause injury. Indirect impacts could be caused by the spread of invasive non-native species that out-compete native species and/or alter habitat towards a state that is unsuitable for special status species or the removal of special status species habitat. For example, the spread of certain weed species can reduce the biodiversity of native habitats, potentially eliminating special status plant species and reducing the availability of suitable forage and breeding sites for special status animal species. Indirect impacts could also result from increased access by humans that foster the spread of non-native invasive plant species and disrupt the normal behaviors of animal species. In addition, steelhead has a high potential to occur in Arroyo Grande Creek, which is a stream that is federally designated critical habitat for steelhead by NMFS (National Oceanic and Atmospheric Administration 2000). Because the agricultural irrigation pipelines crossing Arroyo Grande Creek would be installed by augur boring or horizontal directional drilling methods under Arroyo Grande Creek, project construction and operation would not cause direct loss or fragmentation of habitat or otherwise alter critical habitat for steelhead. However, there is potential for hydrogeological fractures (frac-out) to occur during the drilling process. Frac-out is when drilling fluids (composed primarily of water and bentonite clay) unintentionally return to the surface, which can happen if the drilled boring encounters a vertical underground fissure or void that allows drilling fluids to seep to the surface and enter the overlying water body. If this occurs, the release of contaminants into Arroyo Grande Creek could adversely affect steelhead and critical habitat. Therefore, impacts to steelhead and critical habitat would be potentially significant.

Given the above analysis, impacts to special-status plant and animal species and federally designated critical habitat for steelhead would be potentially significant. Implementation of Mitigation Measures BIO-1(f) through BIO-1(k) would be required to reduce general impacts to special-status plant and animal species to a less-than-significant level, and implementation of Mitigation Measure BIO-3(c) would be required to reduce potential impacts to individuals of steelhead and federally designated critical habitat for steelhead to a less-than-significant level.

Mitigation Measures

BIO-1(a) California Red-legged Frog Habitat Avoidance

Injection well, monitoring well and water distribution pipeline locations and associated construction work areas (including staging, access, and laydown) shall be sited outside of native vegetation communities, such as arroyo willow riparian. Prior to construction, the limits of construction shall be clearly demarcated by bright orange fencing. Areas outside of the limits of construction shall be considered environmentally sensitive, and access and construction shall be restricted.

BIO-1(b) California Red-legged Frog Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction and maintenance activities requiring ground disturbance at the IW-5A, IW-5B, and MW 5A/5B/5C locations and water distribution pipeline locations within 50 feet of Arroyo Grande Creek:

- A qualified biologist shall survey the project site no more than 48 hours before the start of construction and ground-disturbing maintenance activities, including but not limited to grading, excavation, and trenching. If a CRLF is found within the project footprint, no work shall begin, and consultation with the USFWS shall be initiated. Work shall not begin until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take Permit issued by the USFWS for the project are successfully implemented.
- For construction activities occurring during the wet season (October 15 and April 15), daily surveys shall be conducted by a qualified biologist prior to the start of construction activities. If a CRLF is found within the project footprint, work shall halt, and consultation with the USFWS shall be initiated. Work shall not re-commence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take Permit issued by the USFWS for the project are successfully implemented.
- Before any construction or ground-disturbing maintenance activities begin, a biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of CRLF and its habitat, the specific measures that are being implemented to avoid dispersing CRLF, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
- All vehicles and equipment shall be in good working condition and free of leaks. A spill prevention plan shall be established in the event of a leak or spill.
- Work shall be restricted to daylight hours to the extent feasible. If construction activities occur at night, a biological monitor shall be present. If a CRLF is found within the project footprint during active construction, all work shall stop, and the USFWS shall be notified. Work shall not recommence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion and Incidental Take Statement or other authorization issued by the USFWS for the project are successfully implemented.
- Water shall not be impounded in a manner that may attract CRLF.
- All excavations or trenches shall be covered when not actively under construction or shall contain earthen ramps sufficient for CRLF to escape to avoid entrapment of CRLF or other wildlife species.
- Herbicides shall not be used on site during construction.
- No pets shall be permitted on site.
- A biological monitor shall be present during all initial ground-disturbing activities for construction and maintenance activities, including but not limited to grading, excavation, and trenching. If a CRLF is found within the project footprint during active construction, all work shall stop, and the USFWS shall be notified. Work shall not recommence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion and Incidental Take Statement or other authorization issued by the USFWS for the project are successfully implemented.
- All construction and ground-disturbing maintenance activities (e.g., grading, excavation, and trenching) conducted at injection well, monitoring well, and water distribution pipeline locations within 50 feet of Arroyo Grande Creek shall be conducted during dry conditions (i.e., days with less than 0.1 inch of predicted rainfall), outside of the wet season (October 15 through April 30),

unless authorization is provided by the USFWS or a Biological Opinion/Incidental Take Statement issued by the USFWS for the project authorizes work during such conditions.

BIO-1(c) Southwestern Pond Turtle Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction and maintenance activities requiring ground disturbance at the IW-5A, IW-5B, and MW 5A/5B/5C locations and water distribution pipeline locations within 50 feet of Arroyo Grande Creek:

- A qualified biologist shall conduct a visual survey of work areas within 50 feet of Arroyo Grande Creek within 48 hours of initial ground-disturbing activities, including but not limited to grading, excavation, and trenching, associated with construction of injection wells. The survey area shall include the proposed disturbance area plus a 100-foot buffer. Prior to the survey, suitable receptor sites shall be identified within Arroyo Grande Creek. A biologist authorized to relocate turtles shall be present for activities that require the removal of riparian habitat to monitor for turtles. If a turtle is observed in the work area, the biologist shall relocate it out of the work area to the respective receptor site.
- For the duration of project construction activities at the IW-5A, IW-5B, and MW 5A/5B/5C locations and water distribution pipeline locations within 50 feet of Arroyo Grande Creek, daily surveys shall be conducted by a qualified biologist prior to the start of construction activities. If a turtle is observed in the work area, a biologist authorized to relocate turtles shall relocate it out of the work area to the respective receptor site.
- All excavations or trenches shall be covered when not actively under construction or shall contain earthen ramps sufficient for southwestern pond turtle to escape to avoid entrapment of southwestern pond turtle or other wildlife species.
- In the event that a southwestern pond turtle egg clutch is discovered during pre-construction surveys, the location shall be surrounded with high visibility fencing under the guidance of a qualified biologist. The nest shall be avoided by construction activities until a qualified biologist determines that the clutch has hatched. The CDFW shall also be contacted to provide additional guidance in the event that a southwestern pond turtle nest is discovered. If, during construction, a southwestern pond turtle nest is discovered, construction shall cease immediately upon the discovery, and CDFW shall be notified.
- To the extent feasible, construction activities shall be scheduled outside of the typical nesting season for southwestern pond turtle, which is April through August (Stebbins 2003).

BIO-1(d) Monarch Butterfly Avoidance

The ATF complex and associated construction work areas shall be sited outside of monarch butterfly overwintering habitat. Prior to construction and during the overwintering period for monarchs in the region (i.e., October through February), a survey shall be conducted at the eucalyptus grove adjacent to the ATF complex to determine if monarch butterflies are utilizing the habitat for overwintering. If monarch butterflies are confirmed to overwinter within the eucalyptus grove, the grove shall be considered ESHA ,and design of the ATF complex shall be modified to incorporate the appropriate setbacks included in the City of Grover Beach LCP and GBMC. The limits of construction shall be clearly demarcated by bright orange fencing in order to avoid work within designated setback areas. Areas outside of the limits of construction shall be considered environmentally sensitive, and access and construction shall be restricted. If butterflies are present, all construction adjacent to overwintering habitat shall be conducted outside the overwintering season (i.e., October to February), if feasible. However, if construction must occur during this time period, construction may only commence if a

City-approved monarch butterfly expert determines that the construction activities would not adversely impact foraging, roosting, or other behaviors of the species.

BIO-1(e) Nesting Bird Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction activities:

- Initial site disturbance shall occur outside the general avian nesting season (February 1 through August 31), if feasible.
- If initial site disturbance occurs in a work area within the general avian nesting season indicated above, a qualified biologist shall conduct a preconstruction nesting bird survey no more than 14 days prior to initial disturbances in the work area. The survey shall include the entire area of disturbance area plus a 50-foot buffer (relevant to non-raptor species) and 300-foot buffer (relevant to raptors) around the site. If active nests are located, all construction work should be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer should be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required and/or smaller buffers may be established depending upon the species, status of the nest, and construction activities occurring in the vicinity of the nest. The buffer area(s) should be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist should confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. If a white-tailed kite nest is detected during the nesting bird survey no work shall begin until the CDFW is consulted to confirm that implementation of the project and avoidance buffers are sufficient to avoid "take".
- If construction activities in a given work area cease for more than 14 days, additional surveys shall be conducted for the work area. If active nests are located, the aforementioned buffer zone measures shall be implemented.

BIO-1(f) Biological Resources Assessment

Once locations are determined for the project components with unknown locations (i.e., new production well and agricultural irrigation pipelines), a qualified biologist shall conduct a biological resources assessment (BRA) or similar type of study to document the existing biological resources within the project footprint of these components plus a buffer and to determine the potential impacts to those resources. The BRA shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement, sensitive plant communities/critical habitat, potentially jurisdictional features, and other resources judged to be sensitive by local, state, and/or federal agencies. Pending the results of the BRA, design alterations, further technical studies (i.e. protocol surveys) and/or consultations with the USFWS, CDFW and/or other local, state, and federal agencies may be required. Mitigation Measures BIO-1(g) through BIO-1(k) shall be incorporated, only as applicable, into the BRA for projects where specific resources are present or may be present and impacted by the project. Note that specific surveys described in the mitigation measures below may be completed as part of the BRA where suitable habitat is present.

BIO-1(g) Special Status Plant Species Surveys

If completion of the project-specific BRA (Mitigation Measure BIO-1[f]) determines that special status plant species may occur on site, surveys for special status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity (including staging and mobilization). The

surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific BRA. All plant surveys shall be conducted by a qualified biologist approved by the City 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 local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the City for review and approval.

BIO-1(h) Special Status Plant Species Avoidance, Minimization, and Mitigation

If federally listed, State listed or California Rare Plant Rank 1B species are found during special status plant surveys (pursuant to Mitigation Measure BIO-1[f]), 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 shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm. If avoidance of state listed or federally listed plants species is not feasible, impacts shall be fully offset through implementation of a restoration plan that results in no net loss (see Mitigation Measure BIO-1(i]). Prior to the start of construction and maintenance activities that result in impacts to listed plants, consultation with CDFW and/or USFWS and acquisition of any required permits and/or authorizations shall also be completed.

BIO-1(i) Restoration Plan for Special Status Plant Species

If avoidance of state listed, federally listed, and/or non-listed CRPR 1B.1 species is not feasible, 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 as a component of habitat restoration. 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 [including species to be used, container sizes, seeding rates, etc.])
- Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule)
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year, along with performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, and annual monitoring reports for a minimum of five years at which time the City shall demonstrate that performance standards/success criteria have been met
- Success criteria shall be, at a minimum, at least 80 percent survival of container plants and 70 percent absolute cover by vegetation type. Absolute cover will be determined in comparison to a reference plot for native species

- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria
- Notification of completion of compensatory mitigation
- Contingency measures (e.g., initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)

BIO-1(j) Endangered/Threatened Species Avoidance and Minimization

The habitat requirements of endangered and threatened species that have the potential to occur are variable throughout the project area where project components with unknown locations may be sited. However, several avoidance and minimization measures can be applied for a variety of species to reduce the potential for impacts such that no net loss of the species occurs. The following measures shall be applied to aquatic and/or terrestrial species, as determined to be appropriate by the BRA prepared under Mitigation Measure BIO-1(f):

- Ground disturbance shall be limited to the minimum necessary to complete project construction and maintenance. 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 ground-disturbing construction and maintenance activities (e.g., grading, excavation, and trenching) 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.
- All project activities occurring within or adjacent to sensitive habitats that may support federal- and/or State-listed endangered/threatened species shall have a City-approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, the biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, once initial ground disturbing/vegetation clearing activities are completed the biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are being fully implemented.
- No endangered/threatened species shall be captured and relocated without express permission from the CDFW and/or USFWS.
- If at any time during construction or maintenance of the project an endangered/threatened species enters the construction or maintenance site(s) or otherwise may be impacted by the project, all project activities shall cease. A City-approved biologist shall document the occurrence and the City shall notify 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.
- No equipment shall be permitted to enter wetted portions of any affected drainage channel, unless authorized by the USACE, RWQCB, and CDFW through issuance of permits authorizing such activities.
- All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas, and extra spill containment and clean up materials shall be located in close proximity for easy access.

- If construction or maintenance activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline and to monitor during construction for comparison to the baseline.
- If water is to be diverted around work sites, a diversion plan shall be prepared for review and approval by the City prior to the start of any construction or maintenance activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system. It should be noted that diversion and dewatering of creeks, rivers, lakes and ponds may require permits to be issued by the CDFW, RWQCB, USFWS and/or NMFS.
- At the end of each workday, 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.
- The City-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly.
- If any federally and/or State protected species are harmed, the City-approved biologist shall document the circumstances that led to harm and shall determine if project construction should cease or be altered in an effort to avoid additional harm to these species. Dead or injured special status species shall be disposed of at the discretion of the CDFW and USFWS. All incidences of harm shall be reported by the City to the CDFW and USFWS within 48 hours.

BIO-1(k) Non-listed Special Status Animal Species Avoidance and Minimization

Several State Species of Special Concern may be impacted by project components with unknown locations. The ecological requirements and potential for impacts is highly variable among these species. Depending on the species identified in the BRA [Mitigation Measure BIO-1(f)], several of the measures identified under Mitigation Measure BIO-1(j) shall be applicable to the project. In addition, measures shall be selected from among the following to reduce the potential for impacts to non-listed special status animal species, as determined to be appropriate by the BRA prepared under Mitigation Measure BIO-1(f):

- Pre-construction clearance surveys shall be conducted within 14 days prior to the start of construction (including staging and mobilization) in a work area. The surveys shall cover the entire disturbance footprint of the work area 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. A report of the pre-construction survey shall be submitted to the local jurisdiction for their review and approval prior to the start of construction. If construction activities in a given work area cease for more than 14 days, additional surveys shall be conducted for the work area, and additional reports of special status animal species shall be prepared.
- A qualified biologist shall be present during all initial ground disturbing activities, including vegetation removal, to recover non-listed special status animal species unearthed by construction activities.
- If special status bat species may be present and impacted by the project, a qualified biologist shall conduct presence/absence surveys for special status bats where suitable roosting habitat is present within 30 days prior to the start of construction. Surveys shall be conducted using acoustic

detectors and by visually searching suitable roost trees 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 coordination 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. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately.

Significance After Mitigation

Mitigation Measures BIO-1(a) through BIO-1(e) would require avoidance and minimization measures to reduce direct and indirect impacts to special status species from development of the project components with known locations. Mitigation Measures BIO-1(f) through BIO-1(k) would require completion of a BRA and identification and implementation of avoidance and minimization measures to reduce direct and indirect impacts to special status species from development of the project components with unknown locations. As a result, implementation of Mitigation Measures BIO-1(a) through BIO-1(k) would reduce project impacts on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS to a less-than-significant level.

Threshold :	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-2 THE PROJECT WOULD RESULT IN DIRECT AND INDIRECT IMPACTS TO RIPARIAN AREAS. IMPLEMENTATION OF MITIGATION MEASURE BIO-2 WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Injection Wells, Monitoring Wells, ATF Complex, and Water Distribution Pipelines

Construction of the water distribution pipelines would directly impact the arroyo willow riparian vegetation community associated with Arroyo Grande Creek through habitat removal. The arroyo willow riparian habitat is identified as ESHA under the adopted LCPs for the City of Grover Beach and the County of San Luis Obispo. Direct impacts to arroyo willow riparian habitat and ESHA could occur through ground disturbance, vegetation removal, and conversion of habitats to developed land uses. Indirect impacts would occur if construction equipment inadvertently transports residual plant material from other construction sites (e.g., seeds of invasive plant species carried to the site within the undercarriage or tires of heavy equipment that has not been cleaned thoroughly between construction sites), which could lead to the spread of invasive, non-native species from construction equipment. Invasive, non-native plant species can out-compete native species and/or convert riparian habitat to non-native habitat. Direct and indirect impacts to sensitive plant communities and ESHA from construction of the water distribution pipelines would be potentially significant. Implementation of Mitigation Measure BIO-2, which includes avoidance and minimization measures for sensitive habitats, would be required to reduce impacts to a less-than-significant level.

Agricultural Irrigation Pipelines and Production Well

The new production well would be constructed on a parcel likely within the city limits of Grover Beach, where full avoidance of riparian habitats would be possible, and impacts are likely to be minimal, if any. Agricultural irrigation pipelines between the ATF complex and agricultural lands south of Oceano have the highest likelihood of impacting sensitive riparian areas and critical habitat because they would likely traverse Arroyo Grande Creek, which would result in the potential for similar direct and indirect impacts to riparian habitat or other sensitive natural communities as identified above for the injection wells. As a result, impacts to these habitats from construction of the project components with unknown locations would be potentially significant. Implementation of Mitigation Measure BIO-1(e) includes an assessment of sensitive plant communities/critical habitat and other resources determined to be sensitive by local, state, and/or federal agencies. If a sensitive plant community and/or ESHA is identified after completing Mitigation Measure BIO-1(f), implementation of BIO-2, which includes avoidance and minimization measures, would be required to reduce impacts to a less-than-significant level.

Mitigation Measure

BIO-2 Sensitive Plant Community and Environmentally Sensitive Habitat Area Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction and maintenance activities requiring vegetation disturbance within arroyo willow habitat.

- Temporary impact areas to arroyo willow habitat shall be restored at a one to one (1:1) ratio (one acre of restoration for each acre of impact) to offset temporary losses in wetland, stream, or riparian function. Permanent impacts shall be offset through creation, restoration, and/or enhancement of in-kind habitats at a minimum ratio of 2:1 to mitigate unavoidable permanent impacts to arroyo willow habitat. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared by a biologist familiar with restoration and mitigation techniques. The plan shall include, but not be limited to 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 of the compensatory mitigation site);
  - Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including plant species to be used, container sizes, seeding rates, etc.]);
  - Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule);
  - Monitoring plan for the compensatory mitigation site, including no less than five years of monitoring with 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 negative impacts to restoration efforts;
- Notification of completion of compensatory mitigation and agency confirmation; and
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

- During construction, the project shall make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on site should be used for fill material. If the use of imported fill material is necessary, the imported material shall be obtained from a source that is known to be free of invasive plant species.
- All equipment and vehicles must be free of weed seeds/propagules before accessing and leaving the work areas.

Significance After Mitigation

Mitigation Measure BIO-2 would require avoidance measures to avoid direct and minimize indirect impacts to riparian habitat and other sensitive natural communities from construction of the proposed project. As a result, implementation of Mitigation Measure BIO-2 would reduce project impacts on riparian habitat and other sensitive natural communities to a less-than-significant level.

Threshold :	Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-3 THE PROJECT WOULD POTENTIALLY IMPACT STATE AND FEDERALLY PROTECTED WETLANDS THROUGH DIRECT REMOVAL, FILLING, OR HYDROLOGICAL INTERRUPTION. IMPLEMENTATION OF MITIGATION MEASURES BIO-3(A) THROUGH BIO-3(C) WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Injection Wells, Monitoring Wells, Water Distribution Pipelines, and ATF Complex

All the injection wells, monitoring wells, water distribution pipelines and portions of the ATF complex are located within the Coastal Zone, and coastal wetlands receive protection from degradation or destruction caused by coastal development under the Coastal Act, which is implemented by the City of Grover Beach and the County of San Luis Obispo through their adopted LCPs. Therefore, arroyo willow riparian habitat within the footprints of known project elements would likely be subject to regulation by the RWQCB, CDFW, as well as City of Grover Beach and County of San Luis Obispo through their respective LCPs. No impacts to the bed or bank of any potentially jurisdictional drainage would occur. However, direct impacts would include the removal of riparian habitat to accommodate water distribution pipelines. Direct impacts would also occur if spills or leaks occur within the arroyo willow riparian habitat during construction at locations within or adjacent to this habitat. Therefore, impacts to jurisdictional waters and wetlands would be potentially significant, and the project would require the issuance of permits by the RWQCB and CDFW as well as the County of San Luis Obispo,

and the City of Grover Beach under the Coastal Act. Implementation of Mitigation Measure BIO-3(a) and BIO-3(b) for the project components with known locations, which include preparation of a jurisdictional delineation and implementation of subsequent avoidance, minimization, and compensation measures, would be required to reduce impacts to a less-than-significant level.

Agricultural Irrigation Pipelines and Production Well

The new production well would be constructed on a parcel likely within the city limits of Grover Beach where full avoidance of jurisdictional features would be feasible, and impacts would be likely to be minimal, if any. However, agricultural irrigation pipelines between the ATF complex and agricultural lands south of Oceano have the highest likelihood of impacting drainages and wetlands because they would likely traverse Arroyo Grande Creek. The potential agricultural irrigation pipelines that would cross Arroyo Grande Creek would be installed by augur boring or horizontal directional drilling methods under the creek. Utilizing this method, potential frac-out could occur within Arroyo Grande Creek. Therefore, impacts to jurisdictional waters and wetlands from implementation of project components with unknown locations would be potentially significant. Implementation of Mitigation Measures BIO-3(a) and BIO-3(c), which include preparation of a jurisdictional delineation and implementation of subsequent avoidance, minimization and mitigation measures, would be required to reduce impacts to a less-than-significant level.

Mitigation Measures

BIO-3(a) Jurisdictional Delineation

Prior to final determination of the water distribution pipeline locations and associated construction work areas within the Oceano County Airport property, a qualified biologist shall complete a jurisdictional delineation of the project site to aid in the siting of the water distribution pipeline alignments as well as other project areas. The jurisdictional delineation shall determine the extent of the jurisdiction(s) for local agencies (i.e., the City of Grover Beach and County of San Luis Obispo), CDFW, USACE, and/or RWQCB and shall be conducted in accordance with the requirements set forth by each agency.

BIO-3(b) Drainages and Wetlands Impact Mitigation

Impacts to drainages and wetlands identified by the Jurisdictional Delineation (Mitigation Measure 3[a]) shall be mitigated at a minimum of 1:1 (acre impacted: acre restored/created). Restoration on the project site is preferable. However, the City may approve off-site restoration at a location in the same watershed as where the project impacts occur that results in equal compensatory value. An HMMP shall be prepared which identifies the approach for implementing the compensatory mitigation. The HMMP shall be prepared by a qualified biologist/restoration ecologist and shall outline the compensatory mitigation. As part of the HMMP, a final mitigation implementation plan shall be submitted to and approved by the City prior to project implementation. Specifically, the HMMP shall include the following:

- 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 of the compensatory mitigation site);
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including plant species to be used, container sizes, seeding rates, etc.]);
- Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule);
- Monitoring plan for the compensatory mitigation site, including no less than five years of monitoring with 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 negative impacts to restoration efforts;
- Notification of completion of compensatory mitigation and agency confirmation; and
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

BIO-3(c) Drainages and Wetlands Best Management Practices During Construction

For all project components the following best management practices shall be required for permitted grading and construction within drainages or wetlands. In addition, the measures shall be required at locations where construction occurs within 100 feet from drainages or wetlands.

- Access routes, staging, and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other federal and State waters, including locating access routes and ancillary construction areas outside of jurisdictional areas.
- To control erosion and sediment runoff during and after project implementation, appropriate erosion control materials shall be deployed, including but not limited to straw wattles, and maintained in the vicinity of the project footprint.
- Project activities within the drainages or wetlands shall occur during the dry season in any given year to the extent practicable. The dry season is typically between May 1 and September 30; however, this timeframe may be extended depending on year-to-year precipitation and drought conditions.
- During construction, no litter or construction debris shall be placed within drainages or wetlands. 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 daily 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 drainages or wetlands.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from drainages and wetlands 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). 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.

- If installation of the agricultural irrigation pipelines requires the crossing of Arroyo Grande Creek, a Frac-Out Contingency Plan shall be prepared and, and in the event of frac-out, it shall be implemented. The Frac-Out Contingency Plan shall include the following:
  - The purpose of the contingency plan;
  - Preventative measures to minimize the likelihood of a frac-out;
  - The planning and design of the augur boring or horizontal directional drilling;
  - Pre-construction requirements; and
  - Contingency response to contain and remove drilling fluids and closeout procedures. The contingency response shall include general guidelines with all equipment required, guidelines for terrestrial frac-outs along the banks and riparian corridor of Arroyo Grande Creek, guidelines for aquatic frac-outs within Arroyo Grande Creek, and bore abandonment.

Significance After Mitigation

Mitigation Measures BIO-3(a) through BIO-3(c) would require preparation of a jurisdictional delineation to identify jurisdictional areas and implementation of avoidance, minimization and mitigation measures to avoid, minimize, and compensate for direct and indirect impacts to state or federally protected wetlands from development of the project. As a result, implementation of Mitigation Measures BIO-3(a) through BIO-3(c) would reduce project impacts on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means to a less-than-significant level.

Threshold:	Would the project 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?

Impact BIO-4 THE PROPOSED PROJECT WOULD NOT 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. NO IMPACT WOULD OCCUR.

The proposed injection wells, monitoring wells, ATF complex, and water distribution pipelines would not create new barriers to an existing corridor since ground movement of wildlife is already constrained by development along the SR 1 corridor. Most of the project components with unknown locations would likely be sited within previously developed land within Grover Beach east of SR 1, which is an urban area with existing barriers to wildlife movement that is surrounded by other developed urban areas. In addition, agricultural irrigation pipelines would be constructed using augur boring or horizontal directional drilling underneath Arroyo Grande Creek and would be located underground; therefore, these pipelines would not pose a permanent barrier to wildlife movement or use of native wildlife nursery sites once completed. The project would not substantially interfere with the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Mitigation Measures

No mitigation is required.

Threshold:	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact BIO-5 THE PROJECT WOULD RESULT IN IMPACTS TO BIOLOGICAL RESOURCES PROTECTED BY LOCAL POLICIES. IMPLEMENTATION OF MITIGATION MEASURE BIO-5 WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Trees may be removed to accommodate project components with known and unknown locations; however, the species and number of trees is not known at this time. The removal of native trees in unincorporated San Luis Obispo County would be subject to the permit and approval requirements included in San Luis Obispo County Code Sections 23.05.060, 23.05.062, and 23.05.060. If removal of native trees under the proposed project does not occur in accordance with these requirements, impacts would be potentially significant. Therefore, implementation of Mitigation Measure BIO-5, which includes a native tree inventory and compliance measures, would be required to reduce impacts to a less-than-significant level.

The County of San Luis Obispo and City of Grover Beach LCPs, the GBMC, and the SLOCC require setbacks from ESHA, and the San Luis Obispo County Coastal Zone Land Use Ordinance includes regulations for activities within ESHA. The project would be required to comply with these setback and regulatory requirements. Therefore, no impact would occur.

Mitigation Measures

BIO-5 Native Tree Inventory, Protection, and Replacement

A Tree Preservation Plan shall be prepared by a certified arborist to inventory native trees that would be trimmed or removed by construction. Native trees shall be avoided to the maximum extent feasible. The plan shall include, but would not be limited to, an inventory of trees within the construction site plus a 50-foot buffer zone, requirements for setbacks from trees and protective fencing, restrictions regarding grading and paving near trees, and direction regarding pruning and digging within root zone of trees. If removal of native trees is required, the trees shall be replaced consistent with the requirements of the local agency which has jurisdiction as well as the associated tree removal permit that may be issued.

Prior to the onset of construction activities, highly visible orange construction fencing shall be installed around existing stands and individuals identified in the Tree Preservation Plan to be retained at a buffer/extent radius of six feet beyond the canopy dripline, wherever feasible, or otherwise marked in the field to protect them from harm during implementation of the proposed project.

Significance After Mitigation

Mitigation Measures BIO-5 would require implementation of avoidance, minimization and replacement measures for protected trees. As a result, implementation of Mitigation Measures BIO-5 would avoid conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, reducing impacts to a less-than-significant level.

Threshold:	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact BIO-6 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH THE PROVISIONS OF AN ADOPTED HABITAT CONSERVATION PLAN, NATURAL COMMUNITY CONSERVATION PLAN, OR OTHER APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLAN. NO IMPACT WOULD OCCUR.

A Habitat Conservation Plan for Arroyo Grande Creek between Lopez Dam and the flood control channel is under development; however, this plan has not yet been adopted (Stetson Engineers, Inc. 2004). The project area is not subject to an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

Mitigation Measures

No mitigation is required.

c. Cumulative Impacts

The geographic scope for cumulative biological resources impacts includes Grover Beach and Oceano. This geographic scope is appropriate for biological resources because it encompasses the mosaic of representative land cover and habitat types (and associated biological resources) affected by the proposed project, including developed/landscaped areas, arroyo willow riparian habitat, iceplant mat, ruderal vegetation, blackberry bramble, eucalyptus stand, non-native grassland, and wetlands. Most of the cumulative development projects identified in Table 3-1 in Section 3, *Environmental Setting*, are small-scale residential or commercial developments within the urban areas in Oceano, Grover Beach, Arroyo Grande, and Pismo Beach. The project with the greatest potential to result in cumulative impacts to biological resources in conjunction with the proposed project is project number 90, the SSLOCSD Wastewater Redundancy Project, which would be located in close proximity to sensitive biological resources along Arroyo Grande Creek adjacent to the locations of IW-5A, IW-5B, MW-5A/5B/5C, and portions of the water distribution pipelines. However, IW-5A, IW-5B, MW-5A/5B/5C, and these portions of the water distribution pipelines would be located within the project footprint of the SSLOCSD Wastewater Redundancy Project, which is currently developed and lacking in biological resources. In addition, the SSLOCSD Wastewater Redundancy Project would include avoidance and minimization measures to reduce potential impacts to CRLF and nesting birds (Rincon Consultants, Inc. 2019).

Most cumulative impacts to biological resources occur when a disproportionate number of development projects occur at once and regionally impact a local population of special status species, riparian habitat, sensitive natural communities, wetlands, or other locally protected biological resources. In this case, since almost all of the cumulative development projects within and near the project area known at this time are discrete residential or commercial developments, there would be no significant cumulative impact because cumulative development would mostly occur in urban areas where suitable habitat for special status species, riparian habitat, sensitive natural communities, wetlands, and other biological resources are likely already limited or non-existent, and movement patterns for wildlife in this region have already been constrained by the placement of existing development and infrastructure. Therefore, no significant cumulative impact related to biological resources would occur.

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4.3 Cultural and Tribal Cultural Resources

This section evaluates the potential environmental effects related to cultural resources associated with implementation of the Central Coast Blue Project. The analysis in this section has been prepared in accordance with CEQA Guidelines Section 15064.5 and considers potential impacts to historical and archaeological resources. Potential impacts to tribal cultural resources are also addressed in this section. The analysis of cultural and tribal cultural resources within the project area is based on a review of relevant literature and the results of pedestrian surveys conducted by Rincon Consultants, Inc. for the project components with known locations (i.e., injection wells, monitoring wells, ATF complex, and water distribution pipelines), which are summarized in the Cultural Resources Assessment prepared for these project components (Rincon Consultants, Inc. 2020; Appendix E). The analysis is also based on the results of the City's AB 52 consultation with Native American tribes. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.3.1 Setting

The *Natural Setting* and *Cultural Setting* sections below are extracted from the Central Coast Blue Project Cultural Resources Assessment Report, prepared by Rincon Consultants, Inc. in 2020 and included as Appendix E. All references for these sections are included in-text in the Central Coast Blue Project Cultural Resources Assessment Report.

a. Natural Setting

The project area is situated at an elevation ranging from 2.4 to 9.8 meters (10 to 32 feet) above mean sea level. The nearest water sources include Oceano Lagoon, located approximately 45 meters (150 feet) to the west of the proposed water distribution pipelines, and Meadow Creek and Arroyo Grande Creek, both within 30 meters (100 feet) of multiple project components. The soils in the project area are classified as Psamments and Fluvents, Mocho fine sandy loam and Oceano sand. Riparian and floodplain shrublands are the dominant vegetation communities.

b. Cultural Setting

Regional Prehistory

The project area is located within the southern portion of what is generally described as the Central Coast archaeological region (Jones et al. 2007; Glassow et al. 2007). The Central Coast has been defined as extending from south of San Francisco Bay to the northern edge of the California Bight (Jones et al. 2007:125). Following Jones et al. (2007:137), the prehistoric cultural chronology for the Central Coast can be generally divided into six periods: Paleo-Indian (circa [ca.] 10,000 to 8000 Before Common Era [BCE]), Millingstone/Early Archaic (8000 to 3500 BCE), Early (3500 to 600 BCE), Middle (600 BCE to 1000 Common Era [CE]), Middle-Late Transition (1000 to 1250 CE), and Late (1250 CE to European contact [ca. 1769 CE]).

Several chronological sequences have been devised to understand cultural changes along the Central Coast from the Millingstone period to contact. Jones (1993) and Jones and Waugh (1995) presented a Central Coast sequence that integrated data from archaeological studies conducted since the 1980s.

Three periods are presented in their prehistoric sequence subsequent to the Millingstone period: Early, Middle, and Late periods. More recently, Jones and Ferneau (2002:213) updated the sequence following the Millingstone period as follows: Early, Early-Middle Transition, Middle, Middle-Late Transition, and Late periods. The archaeology of the Central Coast subsequent to the Millingstone period is distinct from that of the Bay Area and Central Valley, and the region has more in common with the Santa Barbara Channel area during the Middle and Middle-Late Transition periods, but few similarities during the Late period (Jones and Ferneau 2002:213).

Paleo-Indian Period (ca. 10,000 to 8000 BCE)

The earliest accepted dates for occupation are from two of the Northern Channel Islands, located off the southern coast of Santa Barbara County. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991:105). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002).

Only a few archaeological sites along the Central Coast are documented prior to 8,000 years ago. It is likely that most earlier coastal sites are presently under water because it is estimated that sea levels 10,000 years ago were 15 to 20 meters (49 to 66 feet) lower than today (Bickel 1978:7). Estimates place the shore in central and southern California during this period at approximately 10 kilometers (6.2 miles) farther west than today's coastline (Breschini and Haversat 1991:126).

Recent data from Paleo-Indian sites in southern California indicate that the economy was a diverse mixture of hunting and gathering with a major emphasis on aquatic resources in many coastal areas (e.g., Jones et al. 2002) and on Pleistocene lake shores in eastern California (Moratto 1984:90-92). Although few Clovis-like or Folsom-like fluted points have been found in southern California (e.g., Erlandson et al. 1987), it is generally considered that the emphasis on hunting may have been greater during the Paleo-Indian period than in later periods. A fluted point fragment was recovered from site CA-SBA-1951 on the Santa Barbara Channel coastal plain (Erlandson et al. 1987). Another fluted point was reportedly found on the surface in Nipomo, San Luis Obispo County (Mills et al. 2005; Jones et al. 2007).

Large side-notched points of the Central Coast Stemmed series in this area date to as early as 8,000 years ago (Justice 2002). Points of this type have been recovered at Diablo Canyon (CA-SLO-2; Greenwood 1972), Little Pico Creek (CA-SLO-175; Jones and Waugh 1995), and the Honda Beach site (CA-SBA-530; Glassow 1997), among others. At the Metcalf site (CA-SCL-178), in the southern Santa Clara Valley, Hildebrandt (1983) recovered two large side-notched points associated with charcoal with dates ranging from 9,960 to 8,500 years ago.

Recently investigated sites also provide clear evidence for human occupation of the Central Coast during the Paleo-Indian period. CA-SLO-1764 (Lebow et al. 2001) near Santa Margarita in San Luis Obispo County has produced radiocarbon dates from approximately 9,000 years ago (Jones and Ferneau 2002).

The Early Period shows an increase in hunting and fishing over the Millingstone Period, illustrated by high concentrations of land mammal and fish remains at sites such as SLO-165.

Millingstone Period (8000 to 3500 BCE)

The Millingstone period, as defined by Wallace (1955 and 1978) and recognized on the Central Coast by Greenwood (1972), is characterized by an ecological adaptation to seed collecting suggested by the appearance and abundance of well-made milling implements. Millingstones occur in large

numbers for the first time in the region's archaeological record and are even more numerous near the end of this period. Aside from millingstones, typical artifacts during this period include crude core and cobble-core tools, flake tools, large side-notched projectile points, and pitted stones (Jones et al. 2007).

As testified by their toolkits and shell middens in coastal sites, people during this period practiced a mixed food procurement strategy. Subsistence patterns varied somewhat as groups became better adapted to their regional or local environments. Faunal remains identified at Millingstone sites point to broad-spectrum hunting and gathering of shellfish, fish, birds, and mammals, though large faunal assemblages are uncommon.

The Millingstone period somewhat corresponds with King's (1981 and 1990) Early period of the Santa Barbara Channel area, although King's Early period begins later and lasts longer (5500 to 1350 BCE). The Cross-Creek site (CA-SLO-1797) is a Millingstone occupation site in San Luis Obispo County that returned radiocarbon dates ranging between 9,500 to 4,700 years ago This site represents one of the oldest expressions of the pattern (Jones et al. 2007).

Along the Central Coast, Millingstone period sites are most common on terraces and knolls, typically set back from the current coastline (Glassow et al. 1988, Erlandson 1994:46). However, no less than 42 sites have been identified in various settings, including rocky coasts, estuaries, and nearshore interior valleys (Jones et al. 2007). The larger sites usually contain extensive midden deposits, possible subterranean house pits, and cemeteries. Most of these sites probably reflect intermittent use over many years of local cultural habitation and resource exploitation. Erlandson has noted that the typical Millingstone tools are not common on contemporaneous Channel Island sites, possibly reflecting an alternate insular resource exploitation pattern (Erlandson 1994:47).

Early Period (3500 to 600 BCE)

An extensive series of shoreline midden deposits are within the Central Coast region dating to the Early period, signifying an increase in occupation of the open coast (Jones 1995; Jones and Waugh 1995 and 1997). These include estuarine sites such as CA-SLO-165, located approximately 770 meters (0.48 mile) from the APE, and open-coast sites in Monterey Bay area, including CA-MNT-73, CA-MNT-108, and CA-MNT-1228. Sites dating to this period are marked by large lithic artifact assemblages that include Central Coast Stemmed Series and side-notched projectile points. Square-stemmed and side-notched points have also been found in deposits at Willow Creek in Big Sur (CA-MNT-282) and Little Pico II on the San Luis Obispo coast (CA-SLO-175) (Jones and Ferneau 2002). This trend, first identified by David Banks Rogers in 1929, was confirmed by Greenwood (1972) at Diablo Canyon, and since that time, it has become apparent at numerous sites throughout the Central Coast. In many cases, manifestations of this trend are associated with the establishment of new settlements (Jones et al. 2007).

The material culture recovered from Early period sites within the Central Coast region provides evidence for continued exploitation of inland plant and coastal marine resources. Artifacts include milling slabs and handstones as well as mortars and pestles, which were used for processing a variety of plant resources. Bipointed bone gorge hooks were used for fishing. Assemblages also include a suite of Olivella beads, bone tools, and pendants made from talc schist.

The Early Period shows an increase in hunting and fishing over the Millingstone Period, illustrated by high concentrations of land mammal and fish remains at sites such as SLO-165 (Jones et al. 2007).

Middle Period (600 BCE to 1000 CE)

A pronounced trend toward greater adaptation to regional or local resources occurred during the Middle period. For example, the remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast. Related chipped stone tools suitable for hunting were more abundant and diversified, and shell fishhooks became part of the toolkit during this period. Larger knives, a variety of flake scrapers, and drill-like implements are common during this period. Projectile points include large side-notched, stemmed, and lanceolate or leaf-shaped forms. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common. Sites from this period show a retention of stemmed points and the disappearance of the larger side-notched points (Jones and Klar 2007; Jones et al. 2007).

Complex maritime technology also proliferated during this period. Notable introductions included circular shell fishhooks between 1000 and 500 BCE (Jones and Klar 2007:466), the appearance of compound bone fishhooks between 300 and 900 CE, and the development of the wooden plank canoe (tomol or tomolo) by at least 400 to 700 CE (Arnold 1995; Jones and Klar 2005:466; Kennett 2005; King 1990:87–88; Rick et al. 2001). Hand-hewn plank canoes, sewn together with cordage and then sealed with asphaltum, were "a uniquely sophisticated craft for prehistoric North America" (Jones and Klar 2007: 461). These large canoes were used extensively for travel and trade between the Channel Islands and the mainland; however, no evidence of their use north of Point Conception is known.

The introduction of shell fishhooks and plank canoes, their subsequent modifications, and the increased use of other capture devices such as nets appear to have led to a substantial focus on fishing in most coastal areas. A seasonal settlement pattern was still followed; however, large, permanently occupied settlements, particularly in coastal areas, appear to have been the norm by the end of the period (Kennett 2005).

Middle-Late Transition Period (1000 to 1250 CE)

The Middle-Late Transition period is marked by relative instability and change with major changes in diet, settlement patterns, and interregional exchange. The relatively ubiquitous Middle period shell midden sites found along the Central Coast were abandoned by the end of the Middle-Late Transition period; thus most Transition period and Late period sites were first occupied during those periods and do not represent continuous occupations initiated prior to the Transition Period (Jones and Ferneau 2002:213, 219). SLO-239, located approximately 300 meters (0.19 mile) from the APE, has been tentatively dated to the Middle-Late Transition Period and contains the only residential feature (a circular house floor) in the area dating to this time period (Jones et al. 2007: 139).

Projectile points diagnostic of both the Middle and Late periods are found at sites dating to the Middle-Late Transition period within the Central Coast region (Jones and Ferneau 2002:217). The points include large, contracting-stemmed types typical of the Middle period, as well as Late period small, leaf-shaped points, which likely reflect the introduction of the bow and arrow.

Late Period (1250 CE to Historic Contact)

Late period sites are marked by small, finely worked projectile points, such as Desert side-notched and Cottonwood points, as well as temporally diagnostic shell beads. The small projectile points are associated with bow and arrow technology and indicate influence from the Takic migration from the deserts into southern California. The Chumash only adopted useful technology from the Takic culture, as compared to the broad culture change that occurred to the south. Although shell beads were

typical of coastal sites, trade brought many of these maritime artifacts to inland locations, especially during the latter part of the Late period (Jones et al. 2007).

Common artifacts identified at Late Period sites include bifacial bead drills, bedrock mortars, hopper mortars, lipped and cupped Olivella shell beads, and steatite disk beads. The presence of beads and bead drills suggest that low-level bead production was widespread throughout the Central Coast region (Jones et al. 2007).

Unlike the large Middle period shell middens, Late period sites are more frequently single-component deposits. There are also more inland sites with fewer and less visible sites along the Pacific shore during the Late period. However, one Late Period shell midden has been identified on the coast in Morro Bay (SLO-23). The settlement pattern and dietary reconstructions indicate a lesser reliance on marine resources than observed for the Middle and Middle-Late Transition periods, as well as an increased preference for deer and rabbit (Codding et al. 2010). An increase in sites with bedrock mortars during the Late period further suggests that nuts and seeds began to take on a more significant dietary role (Jones et al. 2007).

Ethnography

The precise location of the boundary between the Chumashan-speaking Obispeño Chumash and their northern neighbors, the Hokan-speaking Salinan, is debatable (Milliken and Johnson 2005); however, Jones and Waugh (1995:8) note that "those boundaries may well have fluctuated through time in response to possible shifts in economic strategies and population movement."

The Chumash spoke six closely related Chumashan languages, which have been divided into two broad groups—Northern Chumash (consisting only of Obispeño) and Southern Chumash (Purisimeño, Ineseño, Barbareño, Ventureño, and Island Chumash) (Mithun 2004). The Chumashan language currently is considered an isolate stock with a long history in the Santa Barbara region (Mithun 2004:304). Groups neighboring the Chumash included the Salinan to the north, the Southern Valley Yokuts and Tataviam to the east, and the Gabrielino (Tongva) to the south. Chumash place names in the project vicinity include Pismu (Pismo Beach) and Tematatimi (along Los Berros Creek) (Greenwood 1978:520).

Only a general outline of the lifeways of the Obispeño Chumash is known based on the little ethnographic information available (Greenwood 1978). Although their language was closer to Southern Chumash groups, the material culture and lifeways of the Northern Chumash appear to have been more similar to their northern neighbors, the Salinan. Accordingly, their populations in this area are thought to have been substantially lower than in the Santa Barbara Channel area, their villages smaller, and their livelihood less based on intensive use of marine fisheries (Glassow et al. 1988; Greenwood 1978).

Permanent Chumash villages included hemispherical dwellings arranged in close groups, with the chief having the largest for social obligations (Gamble et al. 2001). Each Chumash village had a formal cemetery marked by tall painted poles and often with a defined entrance area (Gamble et al. 2001:191).

The acorn was a dietary staple for the mainland Chumash, though its dominance varied by coastal or inland location. Chumash diet also included cattail roots, fruits and pads from cactus, and bulbs and tubers of plants such as amole (Timbrook 1984). On the coast, the wooden plank canoe (tomol) was employed in the pursuit of marine mammals and fish. The tomol not only facilitated marine resource procurement but also facilitated an active trade network maintained by frequent crossings between the mainland and the Channel Islands.

Chumash populations were decimated by the effects of European colonization and missionization (Johnson 1988). Traditional lifeways largely gave way to laborer jobs on ranches and farms in the Mexican and early American periods. Today, the Santa Ynez Band of Chumash Indians is the only federally recognized Chumash tribe, although many people of Chumash descent continue to live throughout their traditional territory.

Regional History

Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769 to 1822), the Mexican Period (1822 to 1848), and the American Period (1848 to present).

Spanish Period (1769 to 1822)

Initial European entry into the San Luis Obispo region began with the Juan Rodrigues Cabrillo Expedition in 1542. Cabrillo sailed along the coast, possibly landing in Morro Bay, and then continued as far north as San Francisco Bay. In 1587, Pedro de Unamuno landed in what was most likely Morro Bay, but suffered casualties during an attack by Native Americans and left. Sebastian Rodriguez Cermeño entered the San Luis Obispo region in 1595 as part of his exploration of the Alta California coast. The earliest detailed descriptions of the area come from members of Gaspar de Portolá's land expedition, which passed through the region in 1769. Early travelers in the Central Coast region reported seeing no large Native American villages like those noted in the Santa Barbara Channel area.

Gaspar de Portolá and Franciscan Father Junípero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823. Portolá continued north, passing through the project vicinity and reaching San Francisco Bay in 1769. Mission San Luis Obispo de Tolosa was founded in 1772, the fifth of 21 missions established by the Spanish in the California.

Mexican Period (1822 to 1848)

The Mexican Period commenced when news of the success of the Mexican Revolution (1810 to 1821) against the Spanish crown reached California in 1822. This period saw the federalization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time.

The secularization of the missions during the Mexican period resulted in approximately 500,000 acres of former mission lands being granted to Mexican citizens in San Luis Obispo County. Over 30 ranchos were established in San Luis Obispo County through land grants. In 1840, Mexican governor Manuel Jimeno Casarin granted Jose Ortega 8,838 acres, called Rancho Pismo or El Pizmo Rancho, which included the project area.

American Period (1848 to Present)

The American Period began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. This period saw increased settlement throughout the state. Many Mexican ranchos were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns. Rancho Pismo was sold by

Jose Ortega to Isaac Sparks in 1846. The rancho was split and changed hands in 1850. Sparks sold a portion of the southern half to Francis Ziba Branch, and the northern half was acquired by John Price and David Mallagh.

The County of San Luis Obispo was founded in 1850. Roads were constructed throughout the county in the 1870s, primarily by Chinese laborers, leading to increased mobility throughout the county. In 1872, Captain John Harford began construction on the Pacific Coast Railway.

Dumke (1944) describes San Luis Obispo County during the California land boom of the 1880s as "the great butter and cheese belt of southern California," initially with land affordably priced between $18 and $25 per acre. By April 1887, an estimated 3,000 to 4,000 people inhabited the region, and land prices increased dramatically. In 1894, the Southern Pacific Railroad completed a line from San Jose to San Luis Obispo, encouraging trade and further settlement of the region.

In the early twentieth century, Port Harford was renamed Port San Luis, and oil from the Santa Maria and Taft-Coalinga fields was shipped beginning in 1907 and 1913, respectively. The California Polytechnic School was established in 1901 as a high school and eventually became California Polytechnic State University. The county's agriculture and ranching production supplied United States troops during World War I and helped its residents weather the Great Depression of the 1930s. At the start of World War II, the United States War Department transferred nearly 100,000 military personnel to bases at Morro Bay, Camp San Luis Obispo, Camp Roberts, and Cambria.

Local History

City of Grover Beach

The city of Grover Beach has its beginnings in the Town of Grover, which was founded by D.W. Grover in 1887. The Town of Grover's streets were laid in a grid pattern and named after popular beaches from the time period. The community was planned to include a hotel and railroad station near the beach and was promoted as "the place where the tide lands and the rails meet." However, Grover's efforts to bring a train station failed, and the Southern Pacific Railroad constructed its station in the nearby community of Oceano. Development faltered, and it was not until the 1930s when Horace V. Bagwell purchased approximately 1,100 acres of land and advertised Grover City as the "home of the average man" that people were drawn by the affordable land prices, and development began to increase. By the mid-1940s, the community had its first store and post office, and a few years later, a fire district and water district were formed. A building boom occurred in the early 1950s in the post-World War II era. Citizens voted to incorporate as Grover City in 1959. In the decades that followed, the city continued to grow with another development boom taking place in the mid-1970s. In 1992, residents voted to reaffirm their City Council's decision to change the community's name to Grover Beach. As of July 2018, the city boasts a population of approximately 13,528 residents.

Community of Oceano

The community of Oceano was laid out by Coffee Adam Rice, a wealthy entrepreneur who arrived in the area in 1882. Expecting the Southern Pacific Railroad to lay its tracks through the town, Rice also built himself a large Victorian home. However, Rice and his wife relocated to Santa Cruz after the death of their young son. The southward expansion of the railroad finally reached the developing town in 1895, and a railroad depot was constructed in Oceano the following year, which went on to serve as a focal point in the southern San Luis Obispo County area for transportation, tourism and real estate promotion from the turn of the century through the 1950s. During the early years of the twentieth century a hotel was built, as well as a dance pavilion near the beach, a pier, and boardwalks.

The town is known for fostering unique communities. As early as 1903, a utopian society known as "Halcyon" established itself in the area of Oceano. Led by New York transplants Dr. William H. Dower and Francia LaDue, a non-denominational temple based on theosophy was established, called the Temple of the People.

The Villa Hotel, constructed in 1905, was converted to a Buddhist Monastery in 1914. The monastery apparently dissolved, and by the 1930s the building was converted to a residence. During the 1930s and 1940s, Oceano's sand dunes drew a variety of individuals including artists, writers, mystics, nudists, and hermits. A group formed that collectively identified themselves as the "Dunites;" they believed that Oceano Dunes was a center of creative energy. The extensive sand dunes continue to be a significant natural resource in the area today.

The Oceano Pavilion, still standing during World War II, was utilized by the United States Coast Guard as its headquarters for mounted patrols that monitored the beaches for invading enemy forces. Although various development plans were proposed for the area, including converting Oceano into a seaport and bringing heavy industry to the area, the community remained small, and the major surrounding industries were vegetable growing and packing, sand mining, and clamming. One sizeable construction project undertaken in the community was a wastewater treatment plant developed in 1965, which today serves Arroyo Grande, Grover Beach and the Oceano Community Services District.

Today, Oceano is composed primarily of residential uses but is likely best known for the approximately 1500-acre Oceano Dunes State Vehicular Recreation Area. The community has remained unincorporated and is considered part of the "Five Cities" metropolitan area, which also includes Arroyo Grande, Avila Beach, Grover Beach, and Pismo Beach. As of the 2010 census, its population was 7,286 people.

c. Regulatory Setting

Cultural resources, including built environment and archaeological resources, may be designated as historic by federal, State or local authorities. In order for a resource to qualify for listing in the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR) or as a locally significant resource, it must meet one or more identified criteria of significance. The resource must also retain sufficient historic integrity, defined in *National Register Bulletin 15* as the "ability of a property to convey its significance" (National Park Service 1990). An explanation of these designations is included in the regulatory setting discussion that follows.

Federal

National Historic Preservation Act

The proposed project may be considered a federal undertaking due to the potential for federal funding and/or permitting; therefore, it may be subject to Section 106 of the National Historic Preservation Act, which applies when a project, activity, or program is funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including projects carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval. Cultural resources are considered during federal undertakings chiefly under Section 106 of the National Historic Preservation Act of 1966 (as amended) and through one of its implementing regulations, 36 Code of Federal Regulations 800 (Protection of Historic Properties), as well as the National Environmental Policy Act. Properties of traditional, religious, and cultural importance to Native Americans are considered under Section 101 (d)(6)(A) and Section 106 (36 Code of Federal Regulations 800.3-800.10) of the National Historic Preservation Act. Other federal

laws governing cultural resources include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1989, among others.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 Code of Federal Regulations 800.1). Under Section 106, the significance of any adversely affected historic property is assessed, and mitigation measures are proposed to resolve the adverse effects to an acceptable level. Historic properties are those significant cultural resources listed in or are eligible for listing in the NRHP. Generally, districts, sites, buildings, structures, and objects that possess integrity are eligible for inclusion on the NRHP if they meet any of the following criteria (36 Code of Federal Regulations 60.4):

a. Are associated with events that have made a significant contribution to the broad patterns of our history;
b. Are associated with the lives of persons significant in our past;
c. Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d. Have yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily, cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in nature are not considered eligible for NRHP listing unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP unless it satisfies a standard of exceptional importance.

State

California Environmental Quality Act

CEQA requires a lead agency to analyze whether historic and/or archaeological resources may be adversely impacted by a proposed project. Under CEQA, a "project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment" (California Public Resources Code [PRC] Section 21084.1). Answering this question is a two-part process. First, the determination must be made as to whether or not the proposed project involves cultural resources. Second, if cultural resources are present, the proposed project must be analyzed for a potential "substantial adverse change in the significance" of the resource.

ASSEMBLY BILL 52

Assembly Bill (AB) 52 expanded CEQA by defining a new resource category called "tribal cultural resources." AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid project impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074(a)(1)(A-B) defines tribal cultural

resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe," that meet either of the following criteria:

1. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); and/or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying the criteria set forth in PRC Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding TCRs. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project" and that has requested to consult with the lead agency. Native American tribes to be included in the process are those requesting notice of projects proposed within the jurisdiction of the lead agency. The consultation process for a project must take place prior to the adoption of a negative declaration or mitigation negative declaration or the certification of an environmental impact report.

California Register of Historical Resources

The CRHR is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The CRHR helps government agencies identify, evaluate, and protect California's historical resources and indicates which properties are to be protected from substantial adverse change (PRC Section 5024.1[a]). The CRHR is administered through the State Office of Historic Preservation, which is part of the California State Parks system.

A cultural resource is evaluated under four CRHR criteria to determine its historical significance. A resource must be significant at the local, state, or national level in accordance with one or more of the following criteria set forth in the CEQA Guidelines Section 15064.5(a)(3):

1. It is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage;
2. It is associated with the lives of persons important in our past;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
4. It has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, the CRHR requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource according to State Office of Historic Preservation publications. The CRHR also requires a resource to possess integrity, which is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association." Archaeological resources can sometimes qualify as "historical resources" (CEQA Guidelines Section 15064.5[c][1]).

According to CEQA, all buildings constructed over 50 years ago that possess architectural or historical significance may be considered potential historical resources. Most resources must meet the 50-year

threshold for historic significance; however, resources less than 50 years in age may be eligible for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand their historical importance.

In addition, if a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-c]).

Two other programs are administered by the State - California Historical Landmarks and California Points of Historical Interest. California Historical Landmarks are buildings, sites, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Historical Interest are buildings, sites, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. PRC Section 21083.2(g) defines a "unique archaeological resource" as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; or
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to a significant cultural resource that affect its characteristics that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (CEQA Guidelines Section 15064.5[b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR or local register of historical resources (CEQA Guidelines Section 15064.5[b][2][A-C]).

Codes Governing Human Remains

CEQA Guidelines Section 15064.5(d-e) also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98 and falls within the jurisdiction of the Native American Heritage Commission (NAHC). If human remains are discovered, the County Coroner must be notified within 48 hours, and there shall be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American in origin, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to PRC Section 5097.98, will immediately determine and notify those persons a most likely descendant (MLD) from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

Local

City of Pismo Beach

The City does not have a local historic register but does identify cultural resources review procedures in the municipal code for projects occurring within the Archaeology-Historic Sites Overlay Zone (Chapter 17.063) and the Architectural Review Overlay Zone (Chapter 17.06). However, while the City of is operating as the lead CEQA agency, the current project is entirely outside of city boundaries and either overlay zone. The City's General Plan Conservation and Open Space Element (City of Pismo Beach 2014) includes the following policies to protect archaeological sites and regulate the disturbance of archaeological sites:

CO-5 **Protect Archaeological Resources.** Archaeological and paleontological resources are declared to be important to be conserved. The City shall have available a map that identifies the possible location of archaeological resources.

As part of the CEQA process for all new development projects, all known or potential archaeological resources shall be fully investigated by a qualified archaeologist recognized by the State Historic Preservation Office. Appropriate protections shall be determined as part of the review process including:

a. Locations within the city known to have a high probability of occurrence of archaeological sites shall be zoned in the Archaeological Resources overlay district.

b. Sites of statewide or national significance shall be nominated for inclusion in the Registry of California Historic Landmarks or National Historic Landmark Program.

c. Specific recommendations prepared by the archaeologist shall be incorporated into project approval including: avoidance of portions of sites containing resources, minimizing the impacts of the development on the archaeological resources, preserving a full archaeological record, and/or partial site dedication, and providing a native American monitor on site to observe excavations in locations where there is a possibility of discovery of human remains.

CO-6 **Construction Suspension.** Should archaeological or paleontological resources be disclosed during any construction activity, all activity that could damage or destroy the resources shall be suspended until a qualified archaeologist has examined the site. Construction shall not resume until mitigation measures have been developed and carried out to address the impacts of the project on these resources. See policies:

Land Use Element	LU-B-7	Special Environmental Conditions
Land Use Element	LU-C-4	Special Environmental Conditions
Land Use Element	LU-F-5	Archaeology Reconnaissance
Land Use Element	LU-J-6	Archaeology
Land Use Element	LU-M-2	Route 101 (Paragraph g)
Land Use Element	LU-N-6	Archaeology
Land Use Element	LU-P-2	Lucia Mar School Archaeology

City of Grover Beach

The City of Grover Beach General Plan Land Use Element (2010) includes the following policy and implementation measures to protect archaeological resources:

LU-16.9 **Archaeological Resources.** The City shall provide for the protection of both known and potential archaeological resources. To avoid development on important archaeological sites, all available measures, including purchase of fee interest or development rights, shall be explored at the time of a development proposal. Where such measures are not feasible and development would adversely affect identified archaeological or paleontological resources, adequate mitigation shall be required.

Implementation Measures

- Review development projects for consistency with the above policy and other relevant provisions of State law relating to archaeological resources as part of the development review process.
- To avoid development on important archaeological sites, all available measures, including purchase of fee interest or development rights, shall be explored at the time of a development proposal. Where such measures are not feasible and development would adversely affect identified archaeological or paleontological resources, adequate mitigation shall be required.
- The City should work with appropriate resource agencies to develop a map of archaeological sites to assist in reviewing to determine if additional review should be required.

County of San Luis Obispo County

GENERAL PLAN

The Conservation and Open Space Element of the 2010 County of San Luis Obispo General Plan contains the following policies applicable to the project (County of San Luis Obispo 2010). Proposed development that does not conform to these policies constitutes a significant impact.

Policy CR 2.3. Preserve historic sites and buildings and recognize cultural and archaeological resources as "living resources" that are part of a continuing culture

Policy CR 3.1. The County will provide for the identification, protection, enhancement, perpetuation, and use of features that reflect the County's historical, architectural, Native American, archaeological, cultural, and aesthetic heritage

Policy CR 3.2. The County supports and encourages historic preservation activities. County agencies should cooperate and coordinate their activities with preservation activities

Policy CR 4.1. Discourage or avoid non-development activities that could damage or destroy Native American and archaeological sites, including off-road vehicle use on or adjacent to known sites. Prohibit unauthorized collection of artifacts

Policy CR 4.2. Ensure protection of archaeological sites that are culturally significant to Native Americans, even if they have lost their scientific or archaeological integrity through previous disturbance. Protect sites that have religious or spiritual value, even if no artifacts are present. Protect sites that contain artifacts, which may have intrinsic value, even though their archaeological context has been disturbed

Policy CR 4.3. The County supports the concept of cultural landscapes and the protection and preservation of archaeological or historical resources as open space or parkland on public or private lands.

Policy CR 4.4. Protect archaeological and culturally sensitive sites from the effects of development by avoiding disturbance where feasible. Avoid archaeological resources as the primary method of protection.

Policy CR 4.6. Protect archaeological resources near streams, springs, and water sources, rock outcrops and significant ridgetops, as these are indicators of the presence of cultural resources.

COASTAL ZONE LAND USE ORDINANCE

San Luis Obispo County Code Section 23.07.104, Archaeologically Sensitive Areas, and Section 23.04.200, Protection of Archaeological Resources Not Within the Archaeologically Sensitive Areas Combining Designation, discuss sensitive areas of San Luis Obispo County and requirements for permitting of any work.

Section 23.07.104 - Archaeologically Sensitive Areas

To protect and preserve archaeological resources, the following procedures and requirements apply to development within areas of the coastal zone identified as archaeologically sensitive.

- **Archaeologically sensitive areas.** The following areas are defined as archaeologically sensitive:
  - Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the County Planning Department.
  - Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part III) of the Land Use Element.
  - Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.

- **Preliminary site survey required.** Before issuance of a land use or construction permit for development within an archaeologically sensitive area, a preliminary site survey shall be required. The survey shall be conducted by a qualified archaeologist knowledgeable in local Native American culture and approved by the Environmental Coordinator. The County will provide pertinent project information to the Native American tribe(s).
- **When a mitigation plan is required.** If the preliminary site survey determines that proposed development may have significant effects on existing, known or suspected archaeological resources, a plan for mitigation shall be prepared by a qualified archaeologist. The County will provide pertinent project information to the Native American tribe(s) as appropriate. The purpose of the plan is to protect the resource. The plan may recommend the need for further study, subsurface testing, monitoring during construction activities, project redesign, or other actions to mitigate the impacts on the resource. Highest priority shall be given to avoiding disturbance of sensitive resources. Lower priority mitigation measures may include use of fill to cap the sensitive resources. As a last resort, the review authority may permit excavation and recovery of those resources. The mitigation plan shall be submitted to and approved by the Environmental Coordinator and considered in the evaluation of the development request by the Review Authority.

- **Archaeological resources discovery.** In the event archaeological resources are unearthed or discovered during any construction activities, the standards of Section 23.05.140 of this title shall apply. Construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist and reviewed and approved by the Environmental Coordinator, is completed and implemented. The County will provide pertinent project information to the affected Native American tribe(s) and consider comments prior to approval of the mitigation plan. The mitigation plan shall include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts. A report verifying that the approved mitigation plan has been completed shall be submitted to the Environmental Coordinator prior to occupancy or final inspection, whichever occurs first.

Section 23.04.200 – Protection of Archaeological Resources Not Within the Archaeologically Sensitive Areas Combining Designation

All development applications that propose development that is not located within the Archaeologically Sensitive Areas combining designation and that meets the following location criteria shall be subject to the standards for the Archaeologically Sensitive Areas Combining Designation in Chapter 23.07: development that is either within 100 feet of the bank of a coastal stream (as defined in the Coastal Zone Land Use Ordinance), or development that is within 300 feet of such stream where the slope of the site is less than 10 percent.

4.3.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Impacts from development of the project components were assessed based on information provided in Section 2, *Project Description*. The survey, analysis, outreach, and literature review methodologies used in the analysis of cultural resources are detailed in the Central Coast Blue Cultural Resources Assessment included as Appendix E. To evaluate the potential impacts of project components with unknown locations, the following assumptions were made:

- Demolition of structures would not be required to accommodate the new production well and agricultural irrigation pipelines.
- Agricultural irrigation pipelines would be constructed from the ATF complex south across Arroyo Grande Creek to agricultural lands located generally south of Oceano, and augur boring or horizontal directional drilling methods would be used to install pipelines under Arroyo Grande Creek. Pipelines would not be attached to bridges, and construction activities would not result in alterations to bridges.

Significance Thresholds

Cultural Resources

Under CEQA, any project that may cause a substantial adverse change in the significance of a historical resource would also have a significant effect on the environment. In accordance with Appendix G of the CEQA Guidelines, an impact related to cultural resources would be significant if the proposed project would:

- Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value
- Disturb any human remains, including those interred outside of dedicated cemeteries

The significance of a cultural resource and subsequently the significance of any impact are determined, among other things, by consideration of whether or not that resource can increase our knowledge of the past. The determining factors are site content and degree of preservation. A finding of archaeological significance follows the criteria established in CEQA Guidelines Section 15064.5, which states:

(a)(3) […] Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 CCR Section 4852).

(a)(4) The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1[k]), or identified in an historical resources survey (meeting the criteria in PRC Section 5024.1[g]) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

Historical resources are "significantly" affected if there is demolition, destruction, relocation, or alteration of the resource or its surroundings. Generally, impacts to historical resources can be mitigated to below a level of significance by following the Secretary of the Interior's *Guidelines for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (CEQA Guidelines Section 15064.5[b][3]). In some circumstances, documentation of an historical resource by way of historic narrative photographs or architectural drawings will not mitigate the impact of demolition below the level of significance (CEQA Guidelines Section 15126.4[b][2]).

Preservation in place is the preferred form of mitigation for archaeological resources because it retains the relationship between artifact and its context and may avoid conflicts with groups associated with the site (CEQA Guidelines Section 15126.4[b][3][A]). If an archaeological resource does not meet the definitions of either an historic resource or the more specific "unique archaeological resource", impacts do not need to be mitigated (CEQA Guidelines Section 15064.5[c][4]). Where the significance of a site is unknown, it is presumed to be significant for the purpose of the EIR investigation.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impact CR-1 DEVELOPMENT FACILITATED BY THE CENTRAL COAST BLUE PROJECT WOULD NOT HAVE THE POTENTIAL TO IMPACT HISTORICAL RESOURCES. NO IMPACT WOULD OCCUR.

Injection Wells, Monitoring Wells, ATF Complex, and Water Distribution Pipelines

As detailed in Appendix E, background research revealed the proposed water distribution pipelines would cross the historic-era Southern Pacific Railroad. Although this linear resource could have potential to be eligible for the NRHP or CRHR, the pipelines would be underground, and construction methods would not include the direct physical alteration of the rail line. As such, there is no potential for the project to result in adverse impacts to any potential significance the Southern Pacific Railroad may possess. Additionally, the records search revealed a monitoring well (MW-5D/5E/5F) is located approximately 35 feet to the southwest of the Oceano Depot (P-40-040781). This building is a designated point of historical interest and has been previously found eligible for listing in the NRHP. As such, it is presumed to be a historical resource and historic property for the purposes of this study. The proposed monitoring well would not have any major aboveground elements and would not result in the direct alteration of the building; therefore, it would not have any direct impacts or change the existing setting of the building in any negative manner. As discussed in Section 4.10, *Noise*, vibration levels generated by well drilling during construction of MW-5D/5E/5F would not exceed the threshold of 0.5 inches per second peak particle velocity, which is the level at which damage may occur to historic structures at the Oceano Depot. Therefore, the proposed project would not adversely impact the Oceano Depot through ground-disturbing construction activities. As a result, these components of the project would have no impact to historical resources.

Agricultural Irrigation Pipelines and Production Well

Based on CEQA Guidelines Section 15064.5, the Central Coast Blue Project would have a significant impact on historical resources if it would cause a substantial adverse change in the significance of a historical resource. Historical resources include properties eligible for listing on the NRHP, the CRHR, or a local register of historical resources. In addition, as explained in Section 15064.5, "[s]ubstantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." At this time, demolition of structures to accommodate the agricultural irrigation pipelines and new production well is not anticipated to be necessary. Furthermore, it is anticipated that agricultural irrigation pipelines would be installed under Arroyo Grande Creek and would not be attached to or require alteration of existing bridges. Once installed, agricultural irrigation pipelines would be located underground and would not result in permanent alterations to the surrounding environment. Furthermore, the new production well would be small in scale and would include minor aboveground components approximately six feet in height or less. Because these components do not include the construction of any new, major aboveground elements and would not introduce any visual features which could substantially alter the setting of the surrounding area in which they would be constructed, the conceptual project components do not have potential to result in the material impairment of any historical resources per CEQA Guidelines

Section 15064.5(b). Therefore, the agricultural irrigation pipelines and new production well would result in no impacts to historical resources under CEQA.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impact CR-2 THE PROPOSED PROJECT HAS THE POTENTIAL TO CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF UNIQUE ARCHAEOLOGICAL RESOURCES AND ARCHAEOLOGICAL RESOURCES THAT MAY BE CONSIDERED HISTORICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Injection Wells, Monitoring Wells, ATF Complex, and Water Distribution Pipelines

The cultural resources assessment identified two cultural resources within the sites of project components with known locations as well as multiple cultural resources near the sites of project components with known locations (Appendix E). The two previously recorded resources within the project site are a prehistoric lithic and shell scatter (P-40-000394) and a small prehistoric artifact scatter (P-40-000396). The presence of P-40-000394 and P-40-000396 within the project site could not be assessed during the pedestrian survey due to dense vegetation and existing development. Previous studies conducted by Osland (1980) and Gibson (1982) included archaeological testing of P-40-000394. Both studies found a mixture of intact and disturbed deposits containing lithic material, human remains, and faunal remains of a variety of terrestrial and marine species. Extensive testing conducted by Osland and Gibson as well as past development and disturbance have resulted in the disturbance and removal of much of the P-40-000394 deposits within the project site. Additional testing of this portion of P-40-000394 is unlikely to yield any unique information. City as-built diagrams depicting the location of utilities identify multiple buried utility lines, the construction of which would have resulted in disturbance and/or removal of much of P-40-000394 within the sites of project components with known locations. In addition, the portion of the sites of project components with known locations that intersects with P-40-000394 falls within the roadway right-of-way and is completely paved. Based on previous testing efforts at the site, known disturbances, and the presence of pavement blocking access to the site within the project site, Rincon Consultants, Inc. determined excavation at P-40-000394 would be both unnecessary and infeasible for project impact analysis (Appendix E).

Rincon Consultants, Inc. conducted an Extended Phase I (XPI) study of P-40-000396 to identify its presence or absence within the sites of project components with known locations. The XPI consisted of the excavation of 23 shovel test pits that identified the presence of a small amount of subsurface cultural materials. The presence of cultural materials triggered the need for a Phase II study, which consisted of the controlled excavation of a test unit to evaluate the site for listing in the CRHR and the NRHP. Sparse cultural materials were identified in the test unit, although no intact stratigraphic profiles could be observed. Based on the results of the Phase II, Rincon Consultants, Inc. determined that the portions of P-40-000396 within the sites of project components with known locations lack integrity and thus do not contribute to the overall site eligibility for the CRHR and NRHP (Appendix E).

Despite the lack of intact archaeological resources identified within the proposed locations of the injection wells, monitoring wells, water distribution pipeline, and ATF complex, these locations are in an area considered highly sensitive for archaeological resources, and impacts to presently unknown resources would be potentially significant. Implementation of Mitigation Measures CR-2(a) through CR-2(c), which require a Worker's Environmental Awareness Program, archaeological and Native American monitoring, and steps to take in the event of an unanticipated discovery of cultural resources during ground-disturbing activities, would be required to reduce impacts to a less-than-significant level.

Agricultural Irrigation Pipelines and Production Well

Effects on archaeological resources can only be determined once specific project component locations have been proposed because impacts are highly dependent on both the individual project location conditions and the characteristics of the proposed ground-disturbing activities. Ground-disturbing activities associated with the agricultural irrigation pipelines and new production well have the potential to damage or destroy known or unknown archaeological resources that may be present on or below the ground surface. Consequently, damage to or destruction of archaeological resources, including those that may be considered historical resources, could occur as a result of construction of these components. Therefore, impacts would be potentially significant. Implementation of Mitigation Measure CR-2(d), which includes preparation of archaeological resource studies and mitigation of identified impacts, would be required to reduce impacts to archaeological resources to a less-than-significant level.

Mitigation Measures

CR-2(a) Worker's Environmental Awareness Program

A qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training should be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology (National Park Service 1983). Archaeological sensitivity training should include a description of the types of cultural material that may be encountered, cultural sensitivity issues, the regulatory environment, and the proper protocol for treatment of the materials in the event of a find.

CR-2(b) Archaeological and Native American Monitoring

During initial ground disturbance for the project, a qualified archaeologist and locally affiliated Native American monitor shall monitor construction activities within the project area. Initial ground disturbance is defined as disturbance within previously undisturbed native soils. A cultural resources monitoring plan shall be completed prior to the commencement of monitoring, which outlines monitoring procedures, stop work authorities, and procedures to be taken in the event of a find. The monitoring plan shall also provide a monitoring form template to be completed by the monitors for each monitoring day. If, during initial ground disturbance, the qualified archaeologist determines that the construction activities have little or no potential to impact cultural resources (e.g., excavations are within previously disturbed, non-native soils, or within a soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend that monitoring be reduced or eliminated. If cultural resources are identified during initial monitoring, work in the immediate vicinity shall halt until the resource has been evaluated for significance.

CR-2(c) Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. Should cultural resources be discovered during excavation, additional studies including data recovery efforts may be needed to reduce project impacts and/or consultation with local tribes and the City, acting as lead agency, may be necessary to mitigate any significant impacts/adverse effects.

CR-2(d) Archaeological Resource Studies

Prior to initial construction activities for the new production well and agricultural irrigation pipelines, a Phase I Cultural Resources Study shall be conducted for each project component by a qualified archaeologist meeting the Secretary of the Interior's standards in archaeology. The Phase I study shall include a pedestrian survey of the project site to identify potential surficial archaeological resources and sufficient background archival research and field sampling to determine whether subsurface prehistoric or historic remains may be present. Archival research should include, at minimum, a records search conducted at the Central Coast Information Center and a Sacred Lands File search conducted with the NAHC.

Any cultural resources so identified shall be avoided and preserved in place, if feasible. Where preservation in place is not feasible, each resource shall be evaluated for significance and eligibility for listing in the CRHR through the implementation of a Phase II evaluation program. Phase II 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. If the resource is found eligible for listing on the NRHP, CRHR, or local register, a Phase III data recovery program shall be conducted to mitigate the impacts to the resource if avoidance remains infeasible. A data recovery program shall include the development of a site-specific research design, testing program, laboratory analysis, and reporting with the intention of extracting data from the resource to the point of redundancy.

Any excavation at Native American sites shall be monitored by a local tribal representative. Cultural materials collected from the sites shall be processed and analyzed in the laboratory according to standard archaeological procedures. The age of archaeological resources shall be determined using radiocarbon dating or other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the sites shall be evaluated according to the criteria of the CRHR. 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 an appropriate curation facility to be determined on a case-by-case basis in consultation with the City and interested parties (e.g., tribal organizations).

If any of the resources meet CRHR significance standards, the City shall ensure that all feasible recommendations for mitigation of impacts are incorporated into the final project design. Any necessary archaeological data recovery excavation shall be carried out by a Registered Professional Archaeologist according to a research design reviewed and approved by the City, as the lead agency,

and 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.

As applicable, the final Phase I Inventory, Phase II Testing and Evaluation, and Phase III Data Recovery reports shall be submitted to the City and the applicable land use permitting agency prior to final inspection of a construction permit. Recommendations contained therein, including, at minimum, requirements to follow for unanticipated archaeological discoveries during construction, shall be implemented throughout all ground disturbance activities.

Significance After Mitigation

Mitigation Measures CR-2(a) though CR-2(c) would require implementation of a Worker's Environmental Awareness Program, monitoring of ground disturbance by a qualified archaeologist and Native American monitor, and evaluation of any unanticipated cultural resources for all project components. In addition, Mitigation Measure CR-2(d) would require completion of archaeological resource studies for the agricultural irrigation pipelines and new production well once the locations of these project components are identified. These measures would require identification, evaluation, treatment, and mitigation of impacts to archaeological resources in accordance with CEQA. Therefore, impacts to archaeological resources would be reduced to a less-than-significant level.

Threshold:	Would the project disturb any human remains, including those interred outside of formal cemeteries?

Impact CR-3 THE PROPOSED PROJECT WOULD HAVE THE POTENTIAL TO DISTURB HUMAN REMAINS. HOWEVER, WITH ADHERENCE TO EXISTING REGULATIONS RELATED TO HUMAN REMAINS, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

No human remains are known to exist within the project area; however, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, California Health and Safety Code Section 7050.5 states no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a MLD. The MLD shall complete inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access. If the MLD fails to make recommendations, the landowner must reinter the remains in a location that will not be affected by future ground disturbing activities. Therefore, with adherence to existing regulations relating to human remains, impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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)?
Threshold:	Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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?

Impact CR-4 THE AB 52 CONSULTATION PROCESS DID NOT IDENTIFY SPECIFIC TRIBAL CULTURAL RESOURCES THAT WOULD BE IMPACTED BY THE PROPOSED PROJECT. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

On January 23, 2020 and April 10, 2020, the City distributed AB 52 consultation letters for the proposed project, including project description, map, and contact information, to nine Native American contacts (see Appendix J for a copy of the letters).[1] The Native American contacts provided with an AB 52 consultation letter via certified mail include the following list of recipients:

- San Luis Obispo County Chumash Council
- yak tityu tityu yak tiłhini – Northern Chumash Tribe
- Northern Chumash Tribal Council
- Barbareño/Ventureño Band of Mission Indians
- Salinan Tribe of Monterey, San Luis Obispo Counties
- Xolon-Salinan Tribe
- Coastal Band of the Chumash Nation
- Santa Ynez Band of Chumash Indians
- Chumash Council of Bakersfield

Under AB 52, Native American tribes were provided 30 days to respond and request further project information and formal consultation.[2] The City received requests for consultation from three tribes, the Northern Chumash Tribal Council, the yak tityu tityu yak tiłhini – Northern Chumash Tribe, and the Salinan Tribe of Monterey, San Luis Obispo Counties. The City held AB 52 consultation meetings with Fred Collins, Spokesperson of the Northern Chumash Tribal Council, on June 17, 2020; with Patti Dunton, Tribal Administrator of the Salinan Tribe of Monterey, San Luis Obispo Counites, on June 24, 2020; and with Mona Tucker, Chairperson of the yak tityu tityu yak tiłhini – Northern Chumash Tribe, on June 26, 2020 to answer questions about the project and to request information on the presence of any known tribal cultural resources at the site.

As discussed in the Central Coast Blue Cultural Resources Assessment (Appendix E), Rincon Consultants, Inc. requested a search of the Sacred Land File (SLF) from the NAHC to identify the potential for cultural resources within the project site and to obtain contact information for Native

[1] During the first AB 52 consultation period, the proposed locations of the ATF complex, water distribution pipelines, and monitoring wells, which were previously undetermined, were selected. As a result, the City distributed a second round of AB 52 letters with the revised project description.

[2] Per Executive Order N-54-20, the 30-day timeframe of the second AB 52 consultation period was suspended between April 23 and June 21, 2020 due to the COVID-19 pandemic. After the suspension concluded, the 30-day consultation timeframe resumed such that tribes were given a full 30 days to initiate consultation when accounting for time lapsed before the suspension.

Americans groups or individuals who may have knowledge of resources within the project site. The SLF search was returned with positive results. The NAHC identifies sacred sites by 7.5 minute quadrangle; if a site is anywhere within the quadrangle, a positive result is produced. A 7.5 minute quadrangle encompasses areas between 49 to 70 square miles, indicating that the sacred site may be within the project area or located several miles away. More specific locational information for sacred sites is only obtained through tribal outreach and consultation. Therefore, Rincon Consultants, Inc. prepared and mailed letters to nine NAHC-listed Native American contacts on November 21, 2017 to request information on potential cultural resources in the project vicinity that may be impacted by project development. Rincon Consultants, Inc. conducted follow-up calls and sent follow-up emails on December 13, 2017; December 16, 2019; and January 6, 2020. This outreach did not constitute formal AB 52 consultation as required by CEQA, which is discussed later in this section. Responses from NAHC-listed contacts are provided below.

- **yak tityu tityu yak tiłhini – Northern Chumash Tribe.** On December 13, 2017, Chairperson Mona Tucker of the yak tityu tityu yak tiłhini - Northern Chumash Tribe stated that the entire San Luis Obispo County coastline is sensitive for cultural resources and that it is nearly impossible to not encounter resources, particularly in Pismo Beach. She additionally stated that without more information about the exact project location (i.e., ATF complex and pipeline alignments), she cannot provide informed comments and thus characterizes this project as having moderate to severe potential impacts to cultural resources.[1] On December 16, 2019, Chairperson Tucker responded to Rincon Consultants, Inc. email, which included an updated APE map. Chairperson Tucker stated that based on the map provided it appears that the project will be impacting culturally sensitive sites but did not provide specific locations. She then inquired about records search results for the project. On January 6, 2020, Chairperson Tucker responded to an email from Rincon Consultants, Inc., which included the results of the records search, survey, and information on upcoming testing efforts at the time. Chairperson Tucker stated that testing would take place in a sensitive location and a Native American monitor should be present. Rincon Consultants, Inc. responded to Chairperson Tucker and stated that a Native American monitor would be present during testing.
- **Barbareño/Ventureño Band of Mission Indians.** On December 13, 2017, Chairperson Julie Tumamait-Stenslie of the Barbareño/Ventureño Band of Mission Indians stated that the project is outside of her area and she would defer any comments to Mona Tucker of the Northern Chumash Tribe. On December 13, 2017, Eleanor Arrellanes of the Barbareño/Ventureño Band of Mission Indians stated the general high sensitivity of the area due to its location on the coast and deferred any comments to Mona Tucker of the Northern Chumash Tribe. On December 13, 2017, Raudel Banuelos, Jr. of the Barbareño/Ventureño Band of Mission Indians stated that he does not have any comments on the project because he is unfamiliar with the area. On January 6, 2020, Ms. Arrellanes of the Barbareño/Ventureño Band of Mission Indians stated that that she recommends archaeological and Native American monitoring during project related ground disturbance and that Rincon should reach out to Mona Tucker of the yak tityu tityu yak tiłhini - Northern Chumash Tribe.
- **Salinan Tribe of Monterey, San Luis Obispo Counties**. On December 13, 2017, Tribal Administrator Patti Dunton of the Salinan Tribe of Monterey, San Luis Obispo Counties stated that she knows of many archaeological and burial sites within the project area limits and that these would not be avoided unless all proposed work is above ground. No specific locations of archaeological and burial sites were provided. She additionally requested archaeological and Native American monitoring for the project.

- **Santa Ynez Band of Chumash Indians**. On December 13, 2017, Chairperson Freddie Romero of the Santa Ynez Band of Chumash Indians (on the behalf of Kenneth Kahn) stated that he would like to know if local tribes had been notified of the project, after which he deferred any comments to local tribes. On January 6, 2020, Chairperson Freddie Romero of the Santa Ynez Band of Chumash Indians (on the behalf of Kenneth Kahn) inquired about archaeological and Native American monitoring for the project. Additionally, he stated that he would like to defer any comments to local tribes.
- **Xolon-Salinan Tribe.** On December 14, 2017, Chairperson Karen White of the Xolon-Salinan Tribe stated that the project is south of the traditional Xolon-Salinan Tribal Lands but that they consider the area to have been used by the Xolon-Salinan for resource gathering.

As stated previously, the City held three consultation meetings, one with Fred Collins, Spokesperson of the Northern Chumash Tribal Council, one with Patti Dunton, Tribal Administrator of the Salinan Tribe of Monterey, San Luis Obispo Counties, and one with Mona Tucker, Chairperson of the yak tityu tityu yak tiłhini – Northern Chumash Tribe. A summary of consultation meetings is provided below.

- **Northern Chumash Tribal Council.** Mr. Collins expressed concerns that some of the project area had not been surveyed previously and suggested that testing should be performed in areas that were not previously surveyed. Mr. Collins also recommended that testing should extend to a depth of 20 centimeters below surface below the anticipated depth of disturbance in order to comprehensively evaluate whether resources are present. Mr. Collins noted that it appeared that project components with known locations are sited outside known cultural resource sites. Mr. Collins stated that the Northern Chumash Tribal Council would like to have monitors present during project construction and would like any burials that may be inadvertently discovered during construction to be left in place. Mitigation Measure CR-2(b) outlined under Impact CR-2 includes provisions for monitoring by a locally affiliated Native American monitor of initial ground disturbance for project construction activities, and Mitigation Measure CR-2(d) includes provisions for monitoring by a local Native American monitor during excavation testing at Native American sites that may occur during future archaeological resource studies for the new production well and agricultural irrigation pipelines. Mr. Collins also expressed support for the project and its benefit of reducing the quantity of discharge of secondary treated effluent from the ocean outfall pipeline.
- **Salinan Tribe of Monterey, San Luis Obispo Counties**. Ms. Dunton stated that there were no concerns with the sites of project components with known locations. Ms. Dunton requested that any ground-disturbing activities be monitored, especially during construction activities near Arroyo Grande Creek and during any Phase II testing that may be conducted for the production well and agricultural irrigation pipelines. Because the project area falls within the traditional territories of multiple Native American tribes, Ms. Dunton recommended taking a collaborative approach to Native American monitoring in which multiple tribes share the responsibility for monitoring and report daily field notes to a shared website. According to Ms. Dunton, shared responsibility would include rotating monitors from the various consulting tribes to provide equal on-site representation.
- **yak tityu tityu yak tiłhini – Northern Chumash Tribe.** Chairperson Tucker expressed concerns about the archaeological sensitivity of the area, especially near Oceano Lagoon. Chairperson Tucker stated that buried human remains have been discovered near the Union Pacific Railroad tracks; however, she is not aware of any discoveries near the point at which the proposed water distribution pipelines would be drilled underneath the tracks. Chairperson Tucker recommended that all areas of project impact should be fully evaluated for potential impacts to cultural

resources. Chairperson Tucker stated that it is possible for human remains and cultural resources to be present even in areas of previous disturbance and below existing development and roadways. Chairperson Tucker also recommended including a monitoring plan as mitigation for project impacts. Mitigation Measure CR-2(b) includes provisions for preparation and implementation of a cultural resources monitoring plan. Chairperson Tucker suggested that, during any Worker's Environmental Awareness Program conducted for the project, emphasis should be placed on the archaeological sensitivity of the area and the importance of construction workers being watchful. Chairperson Tucker recommended archaeological and Native American monitoring for the project.

No specific tribal cultural resources in the project area were identified through the AB 52 consultation process. The area was discussed to be generally highly sensitive for archaeological resources of Native American origin. Requests made by the tribes during consultation meetings were integrated into Mitigation Measures CR-2(b) and CR-2(d), which require a Worker's Environmental Awareness Program, archaeological and Native American monitoring, steps to take in the event of an unanticipated discovery of cultural resources during ground-disturbing activities, and preparation of archaeological resource studies and mitigation of identified impacts. Because no specific tribal cultural resources were identified, impacts to tribal cultural resources would be less than significant. Implementation of Mitigation Measures CR-2(a) through CR-2(d) would further reduce this impact below the level of significance.

Mitigation Measure

No mitigated is required.

c. Cumulative Impacts

In conjunction with other nearby cumulative projects identified in Table 3-1 in Section 3, *Environmental Setting*, the project would have the potential to adversely impact cultural resources. Cumulative development in the region would continue to disturb areas with the potential to contain cultural resources. However, individual development proposals are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exists. In addition, the County of San Luis Obispo has applied an Archaeologically Sensitive Area combining designation to areas of Oceano that are known to be archaeologically sensitive and requires special procedures and standards for projects located within this combining designation under SLOCC Section 23.07.104. In the event that future cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis. It is anticipated that other developments that would have significant impacts on cultural resources would be required to implement similar mitigation measures described herein and would comply with all applicable laws and regulations governing cultural resources. Therefore, the cumulative impact to cultural and tribal cultural resources would be less than significant.

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4.4 Energy

This section discusses the project's potential impacts relating to energy. This analysis follows the guidance for evaluation of energy impacts contained in Appendix F and Appendix G of the CEQA Guidelines. The physical environmental impacts associated with the generation of electricity and burning of fuels have been accounted for in Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.4.1 Setting

Energy use relates directly to environmental quality because energy use can adversely affect air quality and can generate greenhouse gas (GHG) emissions that contribute to climate change. Fossil fuels are burned to create electricity that powers residences, heats and cools buildings, and powers vehicles. Transportation energy use is dependent on the fuel efficiency of cars, trucks, and public transportation; the different travel modes such as auto, carpool, and public transit; and the miles traveled using these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

a. Energy Supply

Petroleum

California is one of the top producers of petroleum in the nation with drilling operations occurring throughout the state but concentrated primarily in Kern and Los Angeles counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received at ports in Los Angeles, Long Beach, and the San Francisco Bay area (California Energy Commission [CEC] 2019a). According to the United States Energy Information Administration, California's field production of crude oil totaled 169.2 million barrels in 2018 (United States Energy Information Administration 2019a).

Petroleum Infrastructure in the Project Area

There are approximately 12 gasoline stations, but no petroleum refineries in the project area (United States Energy Information Administration 2019b; GasBuddy 2019). According to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources, there is one plugged dry hole well in the project area, located south of the Oceano County Airport in the Pismo Dunes Natural Preserve/Pismo State Beach area (California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2019a).

Alternative Fuel Infrastructure in the Project Area

A variety of alternative fuels are used to reduce petroleum-based fuel demand. Their use is encouraged through various statewide regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32. Alternative vehicle fuels include hydrogen, biodiesel, and electricity. Currently, 43 hydrogen and 12 biodiesel refueling stations are located in California, but none are

located in the project area. There are approximately three electric vehicle charging stations in the project area (United States Department of Energy 2019).

Electricity

In 2018, California's in-state electricity generation totaled 80,304 megawatts (CEC 2019b). Primary fuel sources for the state's electricity generation in 2018 included natural gas, hydroelectric, solar photovoltaic, wind, nuclear, geothermal, biomass, and solar thermal. According to the 2018 Integrated Energy Policy Report, California's electric grid relies increasingly on clean sources of energy such as solar, wind, geothermal, hydroelectricity, and biomass. As this transition advances, the grid is also expanding to serve new sectors including electric vehicles, rail, and space and water heating. California has installed more renewable energy than any other state in the United States with 22,250 megawatts of utility-scale systems operational (CEC 2019c).

Pacific Gas & Electric

Pacific Gas and Electric (PG&E) is responsible for providing electric power supply to the project area. PG&E is one of the nation's largest electric and gas utility companies, and it maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (PG&E 2019a). In 2018, PG&E's power mix, including all PG&E-owned generation plus the company's power purchases, consisted of 39 percent renewable resources (wind, geothermal, biomass, solar, and small hydro), 34 percent nuclear generation, 15 percent natural gas, and 13 percent large hydroelectric facilities (PG&E 2019b). According to PG&E's 2018 Integrated Resource Plan, PG&E anticipates meeting a 2030 energy load demand of between 36,922 gigawatt-hours and 37,370 gigawatt-hours (PG&E 2018).

Electric Power Infrastructure in the Project Area

There are no electric power plants in the project area (United States Energy Information Administration 2019b).

Natural Gas

California's net natural gas production for 2018 was 180.6 billion cubic feet, or approximately 187,282 billion British thermal units (Btu; California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2019b). The state relies on out-of-state natural gas imports for nearly 90 percent of its supply (CEC 2019d). The CEC estimates that approximately 45 percent of the natural gas burned across the state is used for electricity generation, and much of the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. Building and appliance energy efficiency standards account for up to 39 percent in natural gas demand savings between 1975 and 2010 (CEC 2019d).

Southern California Gas

The project site is in the natural gas service area of Southern California Gas Company (SoCalGas), which spans central and southern California (CEC 2018a). SoCalGas' service area is equipped with over 101,000 miles of gas transmission and distribution pipelines (SoCalGas 2019a). Natural gas supplied by SoCalGas is sourced primarily from gas fields in the Permian and San Juan basins in the Southwest as well as from supply sources in the Rocky Mountains, western Canada, and California (California Gas and Electric Utilities [CGEU] 2018).

In 2018, SoCalGas customers consumed a total of 5,156 million U.S. therms of natural gas. Residential users accounted for approximately 42 percent of SoCalGas' natural gas consumption. Industrial and commercial users accounted for another 33 percent and 19 percent, respectively. The remainder was used for mining, construction, agricultural, and water pumping purposes (CEC 2019e). According to SoCalGas, residential sales are expected to decline by approximately 1.4 percent per year from 2018 to 2035. Furthermore, commercial sales are expected to decline by 0.7 percent per year from 2018 to 2035. The anticipated decline in both residential and commercial sales is due to aggressive energy efficiency goals and associated programs (CGEU 2018).

Natural Gas Infrastructure in the Project Area

There is one plugged dry hole well in the project area, located south of the Oceano County Airport in the Pismo Dunes Natural Preserve/Pismo State Beach area (California Department of Conservation Division of Oil, Gas, and Geothermal Resources 2019a). No natural gas processing plants are located in the city (United States Energy Information Administration 2019b). The project area contains a main transmission line along South Halcyon Road in Oceano and a main transmission line/high pressure distribution line immediately north of the Pismo Beach Wastewater Treatment Plant that runs parallel to U.S. Highway 101 (SoCalGas 2019b).

b. Energy Demand

The smallest scale at which energy consumption information is readily available is the county level. Therefore, energy consumption in San Luis Obispo County is used herein to characterize the existing consumption of petroleum, electricity, and natural gas in the project area as detailed in the following subsections.

Petroleum

As shown in Table 4.4-1, San Luis Obispo County consumed an estimated 150 million gallons of gasoline and 22 million gallons of diesel fuel in 2018, which was approximately 0.7 percent of statewide gasoline consumption and approximately 1.2 percent of statewide diesel fuel consumption (CEC 2019e).

Table 4.4-1 2018 Annual Gasoline and Diesel Consumption

Fuel Type	San Luis Obispo County (gallons)	California (gallons)	Proportion of Statewide Consumption[1]
Gasoline	150,000,000	15,471,000,000	0.7%
Diesel	22,000,000	1,777,000,000	1.2%

[1] For reference, the population of San Luis Obispo County (280,393 persons) is approximately 0.7 percent of the population of California (39,927,315 persons) (California Department of Finance 2019).

Source: CEC 2019f

Electricity

As shown in Table 4.4-2, San Luis Obispo County consumed approximately 1,766 gigawatt-hours in 2018, which was approximately 2.2 percent of electricity consumption by PG&E customers and approximately 0.6 percent of statewide electricity consumption (CEC 2019e).

Table 4.4-2 2018 Electricity Consumption

Energy Type	San Luis Obispo County (GWh)	PG&E (GWh)	California (GWh)	Proportion of PG&E Consumption	Proportion of Statewide Consumption[1]
Electricity	1,766	79,776	281,180	2.2%	0.6%

GWH = gigawatt-hours

[1] For reference, the population of San Luis Obispo County (280,393 persons) is approximately 0.7 percent of the population of California (39,927,315 persons) (California Department of Finance 2019).

Source: CEC 2019e

Natural Gas

As shown in Table 4.4-3, San Luis Obispo County consumed approximately 82 million US therms in 2018, which was approximately 1.6 percent of the natural gas consumption by SoCalGas customers and approximately 0.6 percent of statewide natural gas consumption (CEC 2019e).

Table 4.4-3 2018 Natural Gas Consumption

Energy Type	San Luis Obispo County (millions of US therms)	SoCalGas (millions of US therms)	California (millions of US therms)	Proportion of SoCalGas Consumption	Proportion of Statewide Consumption[1]
Natural Gas	82	5,156	12,638	1.6%	0.6%

[1] For reference, the population of San Luis Obispo County (280,393 persons) is approximately 0.7 percent of the population of California (39,927,315 persons) (California Department of Finance 2019).

Source: CEC 2019e

c. Regulatory Setting

Federal

Energy Independence and Security Act of 2007

The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce the United States' dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil and confronting climate change. Specifically, it does the following:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022
- Reduces the U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020, an increase in fuel economy standards of 40 percent as compared to 2007 levels

The Energy Independence and Security Act of 2007 also set energy efficiency standards for lighting (specifically light bulbs) and appliances. Development would also be required to install photosensors and energy-efficient lighting fixtures consistent with the requirements of 42 United States Code Section 17001 et seq.

Energy Policy and Conservation Act

Enacted in 1975, the Energy Policy and Conservation Act established fuel economy standards for new light-duty vehicles sold in the United States. The law placed responsibility on the National Highway Traffic and Safety Administration for establishing and regularly updating vehicle standards. The USEPA is responsible for administering the Corporate Average Fuel Economy program, which determines vehicle manufacturers' compliance with existing fuel economy standards. In 2012, the USEPA and National Highway Traffic and Safety Administration established final passenger car and light truck Corporate Average Fuel Economy standards for model years 2017 to 2021, which will require a combined average fleet-wide fuel economy of 40.3 to 41.0 miles per gallon in model year 2021 (United States Department of Transportation 2014).

Energy Star Program

Energy Star is a voluntary labeling program introduced by USEPA to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the USEPA joined with the Energy Department to expand the program, which now also includes certifying commercial and industrial buildings as well as homes (USEPA 2019a).

Construction Equipment Fuel Efficiency Standard

The USEPA sets emission standards for construction equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068. Emissions requirements for new off-road Tier 4 vehicles were completely phased in by the end of 2015.

State

California Energy Action Plan

The CEC is responsible for preparing the California Energy Action Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The 2008 California Energy Action Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, as well as encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), the CEC and CARB prepared and adopted a joint-agency report, *Reducing California's Petroleum Dependence,* in 2003. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand (CEC 2003).

Integrated Energy Policy Report

SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The CEC uses these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. The most recent assessment, the *2018 Integrated Energy Policy Report*, contains two volumes. Volume I highlights the implementation of California's innovative policies and the role they have played in establishing a clean energy economy. Volume II provides more detail on several key energy policies, including decarbonizing buildings, increasing energy efficiency savings, and integrating more renewable energy into the electricity system (CEC 2019c).

Senate Bill 350

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires a doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

California Renewable Portfolio Standard and Senate Bill 100

Approved by former Governor Brown on September 10, 2018, SB 100 accelerates the state's Renewable Portfolio Standard program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Assembly Bill 1493: Reduction of Greenhouse Gas Emissions

AB 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emission Vehicle, Zero Emissions Vehicles, and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions (CARB 2011). However, on September 19, 2019, the USEPA withdrew California's Clean Air Act preemption waiver and issued the One National Program Rule, which prohibits states from establishing their own separate fuel economy standards or passing laws that substantially affect fuel economy standards. As a result, California may no longer promulgate and enforce its tailpipe GHG emission standard and zero emission vehicle mandate (USEPA 2019b).

Energy Action Plan

In 2003, the CEC and California Public Utilities Commission set forth their energy policy vision in the Energy Action Plan. The CEC adopted an update to the Energy Action Plan in February 2008 (EAP II) that supplements the earlier Energy Action Plan and examines the state's ongoing actions in the context of global climate change. The nine major action areas in the Energy Action Plan include energy efficiency, demand response, renewable energy, electricity adequacy/reliability/infrastructure, electricity market structure, natural gas supply/demand/infrastructure, transportation fuels supply/demand/infrastructure,

research/development/demonstration, and climate change (California Public Utilities Commission 2008).

Assembly Bill 1007: State Alternative Fuels Plan

In response to AB 1007, the CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other federal, state, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality (CEC 2007).

Bioenergy Action Plan (Executive Order S-06-06)

Executive Order (EO) S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following in-state production targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources:

- Produce 20 percent of biofuels used in California by 2010,
- Produce 40 percent of biofuels used in California by 2020, and
- Produce 75 percent of biofuels used in California by 2050.

EO S-06-06 also calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies potential barriers and recommends actions to address them so the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications
- Create jobs and stimulate economic development, especially in rural regions of the state
- Reduce fire danger, improve air and water quality, and reduce waste

California Building Energy Efficiency Standards – California Code of Regulations, Title 24, Part 6

California Code of Regulations, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. The 2019 Building Energy Efficiency Standards, adopted on May 9, 2018, became effective on January 1, 2020. The 2019 Standards move toward cutting nonrenewable energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less. The 2019 Standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting

requirements (CEC 2018b). Under the 2019 Standards, nonresidential buildings will be 30 percent more energy-efficient compared to the 2016 Standards (CEC 2018c).

California Green Building Standards Code – California Code of Regulations Title 24, Part 11

California's Green Building Code, referred to as CALGreen, was developed to provide a consistent approach to green building in the state. The CEC adopted updates to the 2016 CALGreen Standards in 2019 which took effect on January 1, 2020. These changes include the following: increasing the number of parking spaces that must be prewired for electric vehicle chargers in residential development; requiring all residential development to adhere to the Model Water Efficient Landscape Ordinance; and requiring more appropriate sizing of HVAC ducts (VCA Green 2019).

2017 Climate Change Scoping Plan

On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the State's 2030 GHG emissions reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation. The 2017 Scoping Plan includes a wide variety of goals related to energy efficiency and renewable energy that are intended to help meet the State's 2030 target, including goals specifically targeted at the water sector (CARB 2017).

Local

Project components would be located in Grover Beach, Arroyo Grande, and unincorporated San Luis Obispo County. The proposed project would be jointly owned and operated by the City and SSLOCSD, and existing production wells are owned and operated by the Cities of Pismo Beach, Grover Beach, and Arroyo Grande and the OCSD. Therefore, several jurisdictions have purview over project-related energy consumption. However, only the Cities of Pismo Beach, Grover Beach, and Arroyo Grande have adopted plans related to energy consumption, including their General Plans and Climate Action Plans, which are discussed in the following subsections.

General Plans

Energy consumed by the proposed project would be under the purview of the Cities of Pismo Beach, Grover Beach, and Arroyo Grande as well as OCSD and SSLOCSD. OCSD and SSLOCSD have not adopted plans related to energy efficiency and renewable energy. In addition, no goals or policies related to energy in the Pismo Beach and Arroyo Grande General Plans are applicable to the proposed project.

The following goals and policies of the City of Grover Beach General Plan Land Use Element are directly relevant to the proposed project (City of Grover Beach 2012):

- **GOAL LU-27** To reduce the emission of greenhouse gases and to promote energy efficiency.
  - **LU-27.4 Greenhouse gas emissions from new development.** The City shall implement measures to reduce the emission of greenhouse gases from new development by:
    a. Discouraging auto-dependent patterns of development;
    b. Promoting compact, mixed-use, pedestrian-friendly, and transit-oriented development;

c. Promoting energy-efficient building design and site planning using either Build It Green and LEED Silver standards for residential and non-residential buildings, respectively;
d. Working to improve the ratio of jobs to housing; and
e. Incorporating transit facilities in new development, and by promoting transit use.

- **LU-27.5 Passive solar heating.** To the extent feasible, the City shall require the orientation of buildings to accomplish the following:
  a. Maximize passive solar heating during cool seasons;
  b. Avoid solar heat gain in warm seasons;
  c. Enhance natural ventilation and effective use of daylight;
  d. Maximize opportunities for the installation of solar panels;
  e. Facilitate the use of sunlight for direct heating and illumination whenever possible; and
  f. Take advantage of natural ventilation and shading to cool a building.
- **LU-27.6 Energy-saving elements efficiency.** The use of exterior shading devices, skylights, daylighting controls, high performance glazing that allows the transmission of light with minimal heat gain, and high thermal mass building components is encouraged.

Climate Action Plans

None of the measures and actions from the Grover Beach and Arroyo Grande Climate Action Plans would apply to the project components owned and operated by Grover Beach and Arroyo Grande (i.e., the existing production wells) (City of Grover Beach 2014; City of Arroyo Grande 2013). As such, only the following measures and actions from the City's Climate Action Plan would apply to energy consumption related to the proposed project (City of Pismo Beach 2014):

- **Measure C-3 Energy Efficiency Requirements for New City-owned Buildings.** Adopt a policy to exceed minimum Title 24 Building Energy Efficiency Standards by a certain percentage for the construction or renovation of new City buildings and facilities.
  - **Action C-3.1:** Adopt a policy to exceed Title 24 building efficiency standards by 30 percent.
- **Measure C-4 Renewable Energy Systems on City Property.** Pursue on-site small-scale renewable energy generation at City government facilities.
  - **Action C-4.2:** Install small-scale solar photovoltaic systems, solar hot water heaters, or other renewable energy projects at select City government facilities.

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Public Resources Code Section 21100(b)(3) states that an EIR shall include "mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." The physical environmental impacts associated with the use of energy, including the generation of electricity and burning of fuels, have been accounted for in Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*.

Energy consumption is analyzed herein in terms of construction and operational energy. Construction energy demand accounts for anticipated energy consumption during construction of the proposed project, such as fuel consumed by construction equipment and construction workers' vehicles traveling to and from the project area. Project construction activities would also use building materials that would require energy use during the manufacturing and/or procurement of that material. Section 15126.2(b) of the CEQA Guidelines states, "This [energy] analysis is subject to the rule of reason and shall focus on energy use that is caused by the project." This analysis reasonably assumes that manufacturers of building materials such as concrete, steel, lumber, or other building materials would employ energy conservation practices in the interest of minimizing the cost of doing business. Therefore, the consumption of energy required for the manufacturing and/or procurement of building and construction material is not within the scope of this analysis.

Operational energy demand accounts for the anticipated energy consumption during project operation, including but not limited to, electricity required to operate the pump station, treatment processes, and wells in addition to natural gas consumption by the ATF building for space heating and fuel consumption by employee and delivery vehicles.

CalEEMod version 2016.3.2 was used in part to estimate energy consumption from construction and operation of the proposed project using information provided by Water Systems Consulting (the project engineer) and CalEEMod default values for projects in San Luis Obispo County. Modeling was completed as part of the air quality and greenhouse gas modeling for Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*. The CalEEMod results provide the average travel distance, vehicle trip numbers, and vehicle fleet mix during construction and operation of the proposed project. The CalEEMod results also provide the estimated gross electricity and natural gas consumption by project operation. The values contained therein are used in this analysis to determine the anticipated energy consumption during construction and operation of the project. In addition to CalEEMod, supplemental information from Water Systems Consulting and other similar projects was used to estimate operational energy consumption from the pump station and treatment processes. This analysis takes into consideration the equipment and processes employed during project construction and operation to qualitatively determine whether energy consumed during construction and operation would be wasteful, inefficient, or unnecessary.

Significance Thresholds

Appendix G of the CEQA Guidelines considers a project to have a significant impact on energy resources if the project would:

- Result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact E-1 PROJECT CONSTRUCTION AND OPERATION WOULD REQUIRE TEMPORARY AND LONG-TERM CONSUMPTION OF ENERGY RESOURCES. HOWEVER, THE PROJECT WOULD NOT RESULT IN THE WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES. NO IMPACT WOULD OCCUR.

Construction

Project construction would require energy resources primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary grid power may also be provided to construction trailers or electric construction equipment. Table 4.4-4 summarizes the anticipated fuel consumption from construction equipment and vehicles, including construction worker trips to and from the project site. As shown therein, construction of the project would require approximately 18,081 gallons of gasoline and 356,331 gallons of diesel fuel.

Table 4.4-4 Construction Fuel Consumption

Source	Gasoline (gallons	Diesel (gallons
Construction Equipment and Hauling Trips		
Injection/Monitoring/Production Wells	–	207,744
Water Distribution Pipelines	–	23,097
Agricultural Irrigation Pipelines	-	46,837
Advanced Treatment Facility	–	78,653
Construction Worker Vehicle Trips		
Injection/Monitoring/Production Wells	10,617	–
Water Distribution Pipelines	1,430	–
Agricultural Irrigation Pipelines	2,860	-
Advanced Treatment Facility	3,174	–
Total	**18,081**	**356,331**

See Appendix C for CalEEMod default values for fleet mix and average distance of travel, and Appendix F for energy calculation sheets

Energy use during construction activities would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of 13 California Code of Regulations Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard (40 Code of Federal Regulations Parts 1039, 1065, and 1068), which would minimize inefficient fuel consumption. Electrical power would be consumed during construction activities, and the demand, to the extent required, would be supplied from existing electrical infrastructure in the area.

Overall, construction activities would utilize fuel-efficient equipment consistent with state and federal regulations and would comply with state measures to reduce the inefficient, wasteful, or unnecessary consumption of energy. Construction contractors would not be anticipated to utilize fuel in a manner that is wasteful or unnecessary as a business practice to ensure cost efficiency. Moreover, the use of energy to construct the proposed project would not be unnecessary because the project is intended to resolve an existing issue by stabilizing and protecting groundwater supplies from seawater intrusion. Therefore, project construction would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and no impact would occur.

Operation

Energy demand from project operation would include fuel consumed by vehicles used by employees and delivery trucks; natural gas consumed for space heating of the ATF building; and electricity consumed by the ATF complex including, but not limited to the pump station, treatment process equipment, and lighting, and by increased groundwater pumping. Estimated project energy usage from vehicle fuel consumption and electricity and natural gas usage is summarized in Table 4.4-5.

Table 4.4-5 Annual Operational Energy Usage

Source	Annual Energy Consumption
Vehicle Trips	
Gasoline	7,007 gallons
Built Environment	
Electricity	8,196 MWh
Pump Station[1]	700 MWh
Treatment Process[2]	7,300 MWh
Increased Groundwater Pumping[3]	2,560 MWh
ATF Building	196 MWh
Natural Gas Usage	660 MMBtu

MWh = megawatt-hour; MMBtu = million British thermal units; VMT = vehicle miles traveled

[1] Preliminary engineering design for the pump station indicates that the pump station would require approximately 697,200 kilowatt-hours per year, which was conservatively rounded up to 700,000 kilowatt-hours, or 700 megawatt-hours, per year.

[2] The *Final Environmental Impact Report for the Carpinteria Advanced Purification Project* estimated that operation of the proposed Carpinteria Valley Water District ATF complex (excluding the pump station) would require approximately 1,556,349 kilowatt-hours per year (Carpinteria Valley Water District 2019). At final capacity, the proposed project would process approximately 4.5 times more water than the Carpinteria Valley Water District ATF; therefore, operation of the proposed ATF complex (excluding the pump station) would require approximately 7,000,571 kilowatt-hours per year, which was conservatively rounded up to 7,300,000 kilowatt-hours, or 7,300 megawatt-hours, per year.

[3] Based on the City's existing Well #5, the average energy intensity for a groundwater production well is 718 kilowatt-hours of electricity per acre-foot of water pumped (Water Systems Consulting 2013). As discussed in Section 2, *Project Description*, the proposed project would result in a net increase in groundwater pumping of 3,566 acre-feet per year. Therefore, approximately 2,560,388 kilowatt-hours, or 2,560 megawatt-hours, would be required for increased groundwater pumping

See Appendices B and F for fleet mix, VMT, electricity consumption, and natural gas consumption values.

The 2017 Scoping Plan acknowledges that "the water-energy nexus provides opportunities for conservation of these natural resources as well as reductions of GHG emissions" (CARB 2017). The 2017 Scoping Plan also points to groundwater remediation and recharge as a means of "meeting new water demands and sustaining prosperity" (CARB 2017). Statewide GHG emissions reduction

strategies for the water sector are aimed are reducing the energy intensity of water, which is "the amount of energy required to take a unit of water from its origin (such as a river or aquifer) and extract and convey it to its end use" (CARB 2017).

The proposed project would include water recycling and reuse to improve water supply reliability; create a sustainable, drought-resistant local water supply for southern San Luis Obispo County; and provide a new source of recharge to the Santa Maria Groundwater Basin to protect the basin from degradation via seawater intrusion. In doing so, the proposed project would stabilize and protect the existing local water supply and would preclude the need for the Northern Cities Management Area agencies to compensate for the decreased availability of local groundwater supplies due to water quality degradation by importing additional future water supplies (beyond those already planned to accommodate growth), which would have a greater energy intensity than existing water supplies. Accordingly, energy consumption during project operation would not be unnecessary. Furthermore, as shown in Table 4.6-3 in Section 4.6, *Greenhouse Gas Emissions*, the majority of project-related GHG emissions would be generated by electricity used to power the treatment process and pump station. Therefore, as the requirements of the State Renewable Portfolio Standard continue to phase in through 2045, renewable energy resources will increasingly supply project energy consumption. Furthermore, in the interest of cost savings, pump station and treatment process equipment would be designed to minimize the wasteful and inefficient consumption of energy. As a result, energy consumption by the proposed project would not be wasteful, inefficient, or unnecessary, and no impact would occur.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Impact E-2 THE PROJECT WOULD BE POTENTIALLY INCONSISTENT WITH THE ENERGY EFFICIENCY AND RENEWABLE ENERGY POLICIES OF THE CITY'S CLIMATE ACTION PLAN AND THE CITY OF GROVER BEACH'S GENERAL PLAN. THEREFORE, IMPLEMENTATION OF MITIGATION MEASURES GHG-2 AND E-2 WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The City's Climate Action Plan and the City of Grover Beach's General Plan contain measures intended to increase energy efficiency and expand the use of renewable energy. As discussed in Section 4.6, *Greenhouse Gas Emissions*, the proposed project would be potentially inconsistent with several measures of the City's Climate Action Plan related to energy efficiency and renewable energy, including Measures C-3 and C-4. In addition, the project would be potentially inconsistent with Goal LU-27 and associated policies LU-27.4, LU-27.5, and LU-27.6 of the Grover Beach General Plan because it is unknown at this time whether the design of the ATF complex would achieve the following:

- Meet Leadership in Energy and Environmental Design (LEED) Silver standards
- Include siting and design features to maximize passive solar heating and opportunities for installation of solar panels
- Include energy-saving elements

Therefore, the proposed project would be potentially inconsistent with local plans for renewable energy and energy efficiency, and impacts would be potentially significant. Implementation of

Mitigation Measure GHG-2, as detailed in Section 4.6, *Greenhouse Gas Emissions*, and Mitigation Measure E-2, which requires inclusion of the City of Grover Beach's energy-related General Plan policies in the proposed project, would be required to reduce impacts to a less-than-significant level.

Mitigation Measures

Implementation of Mitigation Measure GHG-2 as described in Section 4.6, *Greenhouse Gas Emissions*, would require the project to incorporate all applicable measures in the City's Climate Action Plan. In addition, implementation of Mitigation Measure E-2 would be required.

E-2 Energy Efficiency and Renewable Energy Measures

The proposed project shall implement the following energy efficiency and renewable energy measures:

- The ATF building shall incorporate LEED Silver design standards, such as outdoor and indoor water-efficiency features, energy-efficiency and conservation features, energy metering, demand response technologies and programs, and renewable energy systems, where feasible.
- The orientation of the ATF building shall be designed to accomplish the following to the maximum extent practicable:
  - Maximize passive solar heating during cool seasons
  - Avoid solar heat gain in warm seasons
  - Enhance natural ventilation and effective use of daylight
  - Maximize opportunities for the installation of solar panels
  - Facilitate the use of sunlight for direct heating and illumination whenever possible
  - Take advantage of natural ventilation and shading to cool a building
- The ATF building shall use exterior shading devices, skylights, daylighting controls, high performance glazing that allows the transmission of light with minimal heat gain, and high thermal mass building components to the extent feasible.

Significance After Mitigation

Implementation of Mitigation Measures GHG-2 and E-2 would potentially achieve project consistency with the energy-related measures and policies of City's Climate Action Plan and the City of Grover Beach's General Plan. Impacts would be less than significant with mitigation incorporated.

c. Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines Section 15065[a][3]). The geographic scope for the analysis of cumulative impacts to energy consumption is San Luis Obispo County. This geographic scope is appropriate because the smallest scale at which energy consumption information is readily available is the county level.

Cumulative development in San Luis Obispo County would increase demand for energy resources. However, new iterations of the California Building Energy Efficiency Standards and CALGreen would require increasingly more efficient appliances and building materials that reduce energy

consumption in new development. In addition, vehicle fuel efficiency is anticipated to continue improving through implementation of the existing Pavley regulations under AB 1493, and implementation of the SLOCOG 2019 Regional Transportation Plan would reduce per capita VMT in San Luis Obispo County. Cumulative development in San Luis Obispo County will also be required to be consistent with applicable provisions of the SLOCOG Regional Transportation Plan/Sustainable Communities Strategy and with local plans and policies related to energy efficiency and renewable energy. Furthermore, as shown in Table 4.4-2 and Table 4.4-3, the percentage of statewide electricity and natural gas consumption attributed to the county (approximately 0.6 percent) is lower than the county's proportion of the statewide population (approximately 0.7 percent). In addition, as shown in Table 4.4-1, the percentage of statewide gasoline consumption attributed to the county (approximately 0.7 percent) is equal to the county's proportion of the statewide population (approximately 0.7 percent).[1] Therefore, a significant cumulative impact related to the wasteful, inefficient, and unnecessary consumption of energy would not occur.

As discussed under Impact E-2, the project would be potentially inconsistent with the City's Climate Action Plan and the City of Grover Beach's General Plan, which were adopted to reduce the cumulative impact of energy consumption in Pismo Beach and Grover Beach, respectively, and implementation of Mitigation Measures GHG-2 and E-2 would be required. Therefore, with incorporation of mitigation, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to the plans adopted for renewable energy and energy efficiency.

[1] Consumption of diesel fuels is not used as a metric in the cumulative energy impact analysis because it is not possible to disaggregate the percentage of diesel fuels consumed by the goods movement industry, which is not necessarily tied to local land use development.

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4.5 Environmental Justice

Consistent with CEQA-Plus requirements, this section describes the existing socioeconomic conditions in the project area and the regulatory setting pertaining to environmental justice-related issues. This section also evaluates the potential for the proposed project to disproportionately affect minority, low-income, and/or disadvantaged communities. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.5.1 Setting

a. Overview of Environmental Justice

Environmental justice considerations bring attention to the racial and economic demographics of a community with the aim of avoiding impacts that would disproportionately affect minority and low-income groups. The USEPA defines environmental justice as:

> The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The EPA further defines the term *fair treatment* to mean that 'no group of people should bear a disproportionate burden of environmental harms and risks, including those results from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies. (USEPA 2016)

California Government Code Section 65040.12(e) defines environmental justice as:

> The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

Because this analysis is intended to satisfy CEQA-Plus requirements for USEPA funding administered by the SWRCB, this analysis utilizes the USEPA's definition of environmental justice and its guidelines for evaluating environmental justice impacts.

b. Socioeconomic Demographics within and Near Project Area

The proposed project would involve the construction of an ATF complex and associated infrastructure in Oceano (a census-designated place in San Luis Obispo County) and the city of Grover Beach. However, the proposed new production well and agricultural irrigation pipelines may be located near the city of Arroyo Grande; therefore, this analysis also considers environmental justice impacts to the population of Arroyo Grande. Table 4.5-1 and Table 4.5-2 summarize socioeconomic demographic and minority group representation data, respectively, for these jurisdictions as well as for San Luis Obispo County and California to provide context.

Table 4.5-1 Socioeconomic Demographics Within and Near Project Area

Community	Percentage Minority Population (2010)[1, 2, 3]	Percentage of People in Poverty (2013-2017)[4]	Median Household Income (2013-2017)[4]
Oceano (Census-Designated Place)	77.8%	18.8%	$55,421
Grover Beach	53.4%	13.8%	$61,482
Arroyo Grande	30.4%	6.0%	$74,654
San Luis Obispo County	38.2%	13.8%	$67,175
California	80.1%	15.1%	$67,169

[1] Includes all individuals not identified as "White" only in the 2010 Census, including those identified as Hispanic or Latino.

[2] Although 2010 Census data is now a decade old, the decennial Census is considered the most reliable source of data on race and ethnicity because it is based on a 100 percent population survey of all geographical areas, rather than sampling or estimating techniques as is used in more recently published data.

[3] Source: United States Census Bureau 2010

[4] Source: United States Census Bureau 2017

Table 4.5-2 Minority Group Representation as a Percentage of Population Within and Near Project Area

Community	Hispanic/Latino of All Races	Native American	Asian	Black/African American	Other	Total
Oceano (Census-Designated Place)	47.8%	1.6%	2.3%	0.9%	25.2%	77.8%
Grover Beach	29.2%	1.4%	4.1%	1.1%	17.6%	53.4%
Arroyo Grande	15.7%	0.7%	3.4%	0.9%	9.7%	30.4%
San Luis Obispo County	20.8%	0.9%	3.2%	2.1%	11.2%	38.2%
California	37.6%	1.0%	13.0%	6.2%	22.3%	80.1%

Note: Although 2010 Census data is now a decade old, the decennial Census is considered the most reliable source of data on race and ethnicity because it is based on a 100 percent population survey of all geographical areas, rather than sampling or estimating techniques as is used in more recently published data.

Source: United States Census Bureau 2010

c. Regulatory Setting

Federal

Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 states, "no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

Executive Order 12898

EO 12898, known as the federal environmental justice policy, requires federal agencies to address to the greatest extent practicable and permitted by law the disproportionately high adverse human health and environmental impacts of their programs, policies, and activities on minority and low-income populations in the United States. EO 12898 also directs each agency to develop its own strategy to implement environmental justice (USEPA 2018). The USEPA's guidance on evaluating environmental justice impacts is published as *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis* (2016).

Executive Order 13166

EO 13166 requires each federal agency to ensure recipients of federal financial assistance provide meaningful access to their programs and activities by Limited English Proficiency applicants and beneficiaries.

State

California Environmental Quality Act

CEQA requires state and local agencies to identify the significant environmental impacts of their actions, including potentially significant impacts on established communities, and to avoid or mitigate those impacts, when feasible. Pursuant to CEQA Guidelines Section 15131(b), economic and social impacts of a project that are not related to physical changes in the environment are not treated as significant effects on the environment but may be used to determine the significance of physical changes caused by the project.

Senate Bill 535

In 2012, California passed Senate Bill 535, which requires 25 percent of the proceeds from the Greenhouse Gas Reduction Fund to be utilized for projects that benefit disadvantaged communities.[1] As part of this legislation, the California Environmental Protection Agency was given the responsibility of identifying disadvantaged communities, the list of which was released in April 2017 (California Office of Environmental Health Hazard Assessment 2017). The California Environmental Protection Agency based its selection of disadvantaged communities on the results of the California Communities Environmental Health Screening Tool Version 3.0 (CalEnviroScreen 3.0), which "identifies communities by census tract that are disproportionately burdened by, and vulnerable to, multiple sources of pollution" (California Office of Environmental Health Hazard Assessment 2018). According to the California Environmental Protection Agency, disadvantaged communities are those in the top 25 percent scoring areas from CalEnviroScreen as well as other areas with high amounts of pollution and low populations (California Office of Environmental Health Hazard Assessment 2017).

[1] The Greenhouse Gas Reduction Fund was established as part of the cap-and-trade program under Assembly Bill 32.

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

This analysis considers impacts to environmental justice communities, which include minority, low-income, and/or disadvantaged communities. The following criteria are used in this analysis to determine the presence of minority, low-income, and disadvantaged communities within and near the project area:

- **Minority Population.** A significant minority population is present if the minority population of the affected area exceeds 50 percent, or if the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (USEPA 2016). For the purpose of this analysis, "meaningfully greater" means the minority population percentage of the local community is at least 10 percent greater than the minority population percentage of the county.
- **Low-Income Communities.** USEPA guidelines recommend that analyses of low-income communities consider the United States Census Bureau's poverty level definitions, (USEPA 2016). The United States Census Bureau uses a set of financial income thresholds that vary by family size and composition to determine who is in poverty (United States Census Bureau 2019).
- **Disadvantaged Communities.** As discussed under Section 4.5.1(c), *Regulatory Setting*, the California Environmental Protection Agency has identified disadvantaged communities using CalEnviroScreen 3.0. In addition, the California Department of Water Resources (2016) defines a disadvantaged community as a community with a median household income less than 80 percent of the California median household income. Over the period of 2013 to 2017, the median household income of California was $67,169 (United States Census Bureau 2017); therefore, the disadvantaged community median household income criteria is $53,735 (i.e., $67,169 * 0.8).

Sections 4.1 through 4.4 and 4.6 through 4.12 of this EIR include analyses identifying the potential for project impacts on environmental resources in the project area, including impacts on air quality, biological resources, cultural resources, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, noise, and transportation. These impacts are identified by type of impact and whether the impact is a temporary construction-related impact or a long-term operational impact. This analysis focuses on those impacts that would potentially have localized effects on human beings in and near the project area because these impacts have the highest potential for resulting in disproportionate impacts to environmental justice communities.

In cases where no impacts were identified, impacts were less than significant, or proposed mitigation measure(s) would reduce a potentially significant impact to a less-than-significant level, no further analysis is conducted on the potential of the project to affect an environmental justice community. Impacts that would remain significant and unavoidable after mitigation were compared to the geographic locations of environmental justice populations in the project area to determine if any of the impacts occurred disproportionately in environmental justice communities or if these impacts were of a disproportionately high magnitude within environmental justice communities. If any impact was disproportionate in an environmental justice community, then the potential for a disproportionately high and adverse impact on minority and low-income populations could be

present. If impacts are concentrated in non-environmental justice areas or evenly distributed throughout the project area, then no disproportionate environmental justice impacts would occur.

Significance Thresholds

For the purposes of this analysis, an impact related to environmental justice would be significant if the proposed project would result in impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project result in impacts to minority or low-income populations that are disproportionately high and adverse, either directly or indirectly?

Impact EJ-1 PROJECT COMPONENTS WOULD BE CONSTRUCTED IN OCEANO AND GROVER BEACH, WHICH ARE IDENTIFIED AS ENVIRONMENTAL JUSTICE COMMUNITIES. HOWEVER, WITH MITIGATION INCORPORATED, THE PROPOSED PROJECT WOULD NOT RESULT IN DISPROPORTIONATELY HIGH AND ADVERSE IMPACTS TO THESE COMMUNITIES. AS A RESULT, ENVIRONMENTAL JUSTICE IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Identification of Environmental Justice Communities

As shown in Table 4.5-1, Oceano and Grover Beach have minority populations that exceed 50 percent. Therefore, Oceano and Grover Beach are identified as having significant minority populations for the purposes of environmental justice analysis. As shown in Table 4.5-2, minority populations in these areas consist primarily of persons identifying as Hispanic/Latino of all races with relatively small percentages of persons identifying as Asian, Native American, and Black/African American.

As shown in Table 4.5-1, the percentage of persons in poverty within and near the project area ranges from 6.0 to 18.8 percent of the population. In comparison, the percentage of persons in poverty is approximately 13.8 percent in San Luis Obispo County and 15.1 percent in California (United States Census Bureau 2017). Of the three communities, only Oceano has a percentage of persons in poverty that exceeds the percentage of persons in poverty for San Luis Obispo County and California. Therefore, Oceano is considered a low-income community.

According to the California Environmental Protection Agency, the disadvantaged community nearest to the project area is located approximately 45 miles to the east (California Office of Environmental Health Hazard Assessment 2018). In addition, as shown in Table 4.5-1, the median household income of communities within and near the project area ranges from $55,421 to $74,654, which does not fall below the criteria of $53,735 (i.e., 80 percent of the California median household income) for identification of a disadvantaged community by the California Department of Water Resources. As a result, there are no disadvantaged communities within or near the project area.

Given the above analysis, both Oceano and Grover Beach are identified as environmental justice communities because of the significant minority populations in both communities and the high levels of poverty in Oceano.

Impacts to Environmental Justice Communities

Construction Impacts

Construction would generate localized impacts on the populations of Oceano and Grover Beach related to air pollutant emissions, the use of hazardous materials, noise, and traffic. Such activities would be intermittent and/or temporary and would cease upon completion of work activities. The following potentially significant impacts and associated mitigation measures were identified for project construction:

- **Air Quality (Section 4.1).** Project construction would generate temporary emissions of air pollutants, including ROG, NO_X, DPM, and fugitive dust. Emissions of ROG + NO_X would exceed SLOAPCD thresholds during Phase I. Implementation of Mitigation Measures AQ-2(a) and AQ-2(b), which include use of standard control measures and best available control technology for construction equipment, would be required to reduce impacts to a less-than-significant level.
- **Hazards and Hazardous Materials (Section 4.7).** Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials, would be brought into the project area then used and stored during project construction, resulting in a temporary increase in the potential to expose the public or the environment to hazardous materials. It is reasonably foreseeable that accidental spills and releases of hazardous materials may occur over the course of project construction; therefore, impacts would be potentially significant. Implementation of Mitigation Measure HAZ-1(a), which include preparation of a Hazardous Materials Management and Spill Prevention and Control Plan, would reduce impacts to a less-than-significant level. In addition, project construction would have the potential to interfere with an adopted emergency response plan or evacuation plan. Therefore, implementation of Mitigation Measure T-1 which includes preparation of a Transportation Management Plan, would be required to reduce impacts to a less-than-significant level.
- **Noise (Section 4.10).** Project construction would generate substantial temporary increases in ambient noise levels in the vicinity of project components in excess of local standards during project construction. Therefore, implementation of Mitigation Measure N-1, which includes construction noise reduction measures, would be required to reduce impacts to the extent feasible. However, due to the close proximity of residential land uses to well locations, implementation of Mitigation Measure N-1 in all cases may not be feasible and therefore may not reduce construction noise impacts below the specified thresholds. Therefore, construction noise impacts would be significant and unavoidable. Use of a vibratory roller during project construction would generate perceptible vibration at nearby receivers; therefore, implementation of Mitigation Measure N-4, which prohibits the use of vibratory rollers, would be required.
- **Transportation (Section 4.11)**. The proposed project may temporarily alter transportation patterns and emergency access within the project area because lane and/or road closures may be required where water distribution pipelines are installed in public roadway rights-of-way. Furthermore, construction equipment and materials would be staged temporarily within the public ROWs near the construction area, which may impact transit stops, bicycle and/or pedestrian facilities. However, implementation of Mitigation Measure T-1, which includes preparation of a Transportation Management Plan, would reduce impacts to a less than significant level.

The potentially adverse, localized, construction-related impacts on human beings discussed above would be reduced to less-than-significant levels through implementation of proposed mitigation measures with the exception of the project's significant and unavoidable construction noise impact associated with 24-hour drilling of the injection, monitoring, and production wells. This construction noise impact would adversely affect residents in Oceano and Grover Beach that live within 200 feet of the MW-1C/1D, MW-2D/2E/2F, MW-4C/4D, and MW-5D/5E/5F locations. Mitigation Measure N-1 includes requirements to implement construction noise reduction measures during 24-hour well drilling activities, including the use of mufflers, sound enclosures, and temporary sound barriers as well as provision of temporary housing to accommodate for residents within 200 feet of construction activities for MW-1C/1D, MW-2D/2E/2F, MW-4C/4D, and MW-5D/5E/5F. However, residents within 200 feet of the MW-1C/1D, MW-2D/2E/2F, MW-4C/4D, and MW-5D/5E/5F locations may voluntarily choose not to temporarily relocate during 24-hour well drilling activities and would be exposed to a significant temporary increase in ambient noise levels in excess of the specified thresholds. In addition, it is possible that the final well locations may shift within a 50-foot radius of their current locations during final engineering and/or during installation to account for subsurface conditions. As a result, the final well locations may be closer to sensitive receivers than analyzed herein such that the specified mitigation measures would not sufficiently reduce noise levels. Therefore, this impact would be significant and unavoidable.

The entire project area is located within the environmental justice communities of Oceano and Grover Beach, and the project's significant and unavoidable construction noise impact would be evenly distributed throughout the project area at 18 well locations, not focused on a single area. Therefore, this impact would not affect one area or population more than another. Furthermore, construction noise impacts would be short-term, temporary, and typical of construction projects occurring throughout the region, which often generate temporary increases in noise. Therefore, although this impact would occur in the environmental justice communities of Oceano and Grover Beach, this impact would not be disproportionately high and adverse. As such, with mitigation incorporated, construction of the proposed project would not result in any disproportionately high impacts on minority, low income, or disadvantaged communities. Impacts would be less than significant with mitigation incorporated.

Operational Impacts

Project operation would result in localized impacts on the population of Grover Beach related to the use of hazardous materials and noise. The following potentially significant impacts were identified for project operation; however, the proposed mitigation measures would reduce all operational impacts to a less-than-significant level.

- **Hazards and Hazardous Materials (Section 4.7).** It is reasonably foreseeable that minor spills and/or accidental releases of the generally small quantities of hazardous materials used at the ATF complex could occur over the course of project operation. Therefore, operational impacts related to hazardous materials would be potentially significant. However, implementation of Mitigation Measure HAZ-1(b), which entails the creation and implementation of a Hazardous Materials Business Plan for the ATF, would reduce impacts to a less-than-significant level.
- **Noise (Section 4.10).** Operation of the proposed project would potentially generate substantial permanent increases in ambient noise levels in the vicinity of the project in excess of local standards. Therefore, implementation of Mitigation Measure N-2, which requires preparation of an acoustical analysis and implementation of necessary noise reduction measures upon

completion of the site design, layout, and equipment selection of the ATF complex, would be required to reduce impacts to a less-than-significant level.

The potentially adverse, localized, operational impacts on human beings discussed above would be reduced to less-than-significant levels through implementation of proposed mitigation measures. In addition, these impacts, which are typical of industrial-type projects, are associated with the ATF complex, which would be sited in an existing industrial area of Grover Beach. Furthermore, the proposed project would have the long-term benefit of protecting the drinking water supply for all local customers served by the Cities of Pismo Beach, Grover Beach, and Arroyo Grande and the OCSD regardless of race, ethnicity, or income level. As a result, not only would the project would result in less-than-significant adverse operational impacts to the environmental justice community in Grover Beach, but it would also benefit this environmental justice community as well as the environmental justice community of Oceano by increasing the stability, reliability, and resiliency of their drinking water supply. Therefore, although less-than-significant impacts related to hazardous materials and noise would occur in the environmental justice community of Grover Beach, these impacts would not be disproportionately high and adverse. As such, with mitigation incorporated, operation of the proposed project would not result in any disproportionately high impacts on minority, low income, or disadvantaged communities. Impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Implementation of Mitigation Measures AQ-2(a), AQ-2(b), HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1 would be required. See Section 4.7, *Hazards and Hazardous Materials*, Section 4.10, *Noise*, and Section 4.11, *Transportation*, for more details.

Significance After Mitigation

As discussed in Sections 4.7, 4.10, and 4.11, implementation of the mitigation measures would reduce project impacts to a less-than-significant level. Therefore, environmental justice impacts would be reduced to a less-than-significant level.

c. Cumulative Impacts

Environmental justice impacts are, by nature, localized impacts because they result from adverse impacts to local environmental justice communities. The geographic scope for cumulative impacts to environmental justice communities is Grover Beach and Oceano, which are the environmental justice communities identified within and adjacent to the project area. As shown in Table 3-1 and Figure 3-3 in Section 3, *Environmental Setting*, residential, commercial, industrial, and other land use development projects are proposed throughout the project area. However, as discussed in Sections 4.1 through 4.4 and 4.6 through 4.12, either no cumulative impacts would occur because of the proposed project or, where cumulative impacts were identified, the project would not have a cumulatively considerable contribution to those cumulative impacts with mitigation incorporated. Therefore, the project would not have a cumulatively considerable impact to environmental justice communities with mitigation incorporated.

4.6 Greenhouse Gas Emissions

The following discussion focuses on the greenhouse gas emissions generated by construction and operation of the proposed project as well as the project's consistency with applicable plans, policies, and regulations adopted for the purposes of reducing GHG emissions. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.6.1 Setting

a. Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The United Nations Intergovernmental Panel on Climate Change expressed a high degree of confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (Intergovernmental Panel on Climate Change 2014).

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide, methane, nitrous oxides, fluorinated gases such as hydrofluorocarbons and perfluorocarbons, and sulfur hexafluoride. Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, carbon dioxide and methane are emitted in the greatest quantities from human activities. Emissions of carbon dioxide are usually by-products of fossil fuel combustion, and methane results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than carbon dioxide, include fluorinated gases and sulfur hexafluoride (USEPA 2019). Different types of GHGs have varying global warming potentials. The global warming potential of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (carbon dioxide) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of GHG emitted multiplied by its global warming potential. Carbon dioxide has a 100-year global

warming potential of one. By contrast, methane has a global warming potential of 25, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule per molecule basis (Intergovernmental Panel on Climate Change 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 34° Celsius (°C) cooler (California Environmental Protection Agency 2006). However, emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

b. Greenhouse Gas Emissions Inventory

Worldwide anthropogenic emissions of GHGs were approximately 46,000 million metric tons (or gigatonne) CO_2e in 2010 (Intergovernmental Panel on Climate Change 2014). Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, carbon dioxide was the most abundant, accounting for 76 percent of total 2010 emissions. Methane emissions accounted for 16 percent of the 2010 total, while nitrous oxide and fluorinated gases accounted for 6 percent and 2 percent respectively (Intergovernmental Panel on Climate Change 2014).

Federal Emissions Inventory

Total United States (U.S.) GHG emissions were 6,456.7 million metric tons of CO_2e in 2017. Since 1990, total U.S. emissions have increased by an average annual rate of 0.04 percent for a total increase of 1.3 percent since 1990. However, emissions decreased by 0.5 percent from 2016 to 2017. The decrease from 2016 to 2017 was a result of multiple factors, including (1) a continued shift from coal to natural gas and other non-fossil fuel energy sources in the electric power sector and (2) milder weather in 2017 resulting in overall decreased electricity usage. In 2017, the industrial and transportation end-use sectors accounted for 30 percent and 29 percent, respectively, of GHG emissions while, the residential and commercial end-use sectors accounted for 15 percent and 16 percent of GHG emissions, respectively, with electricity emissions distributed among the various sectors (USEPA 2019).

California Emissions Inventory

Based on CARB's California Greenhouse Gas Inventory for 2000-2017, California produced 424.1 million metric tons of CO_2e in 2017. The major source of GHG emissions in California is transportation, contributing 41 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 24 percent of the state's GHG emissions, and electric power accounts for approximately 15 percent (CARB 2019a). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. In 2016, the State of California achieved its 2020 GHG emission reduction targets as emissions fell below 431 million metric tons of CO_2e (CARB 2019a). The annual 2030 statewide target emissions level is 260 million metric tons of CO_2e (CARB 2017).

Local Emissions Inventory

The proposed project would be jointly owned and operated by the City and SSLOCSD, and existing production wells are owned and operated by the Cities of Pismo Beach, Grover Beach, and Arroyo

Grande and OCSD. Therefore, these jurisdictions would have purview over project-related GHG emissions.[1] The Cities of Pismo Beach, Grover Beach, and Arroyo Grande have all adopted Climate Action Plans with baseline 2005 GHG inventories, which are discussed in detail below.

City of Pismo Beach

As part of the its 2014 Climate Action Plan, the City completed a 2005 baseline GHG emissions inventory, which estimated that government operations generated approximately 1,897 metric tons (MT) of CO_2e in 2005 with 28 percent from wastewater facilities, 16 percent from use of the vehicle fleet, 12 percent from water delivery, and 9 percent from buildings and facilities (City of Pismo Beach 2014).

City of Grover Beach

As part of its 2014 Climate Action Plan, the City of Grover Beach completed a 2005 baseline GHG emissions inventory, which estimated that government operations generated approximately 1,344 MT of CO_2e in 2005 with 71 percent from use of the vehicle fleet, 15 percent from water delivery, 7 percent from buildings and facilities, and 1 percent from wastewater facilities (City of Grover Beach 2014).

City of Arroyo Grande

As part of its 2013 Climate Action Plan, the City of Arroyo Grande completed a 2005 baseline GHG emissions inventory, which estimated that government operations generated approximately 1,227 MT of CO_2e in 2005 with 28 percent from use of the vehicle fleet, 21 percent from water delivery, 16 percent from buildings and facilities, and 2 percent from wastewater facilities (City of Arroyo Grande 2013).

c. Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature from 2015 to 2017 was approximately 1.0°C (1.8°F) higher than the average global mean surface temperature over the period from 1880 to 1900 (National Oceanic and Atmospheric Administration 2019). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature obtained from station observations jointly indicate that Land-Surface Air Temperature and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (Intergovernmental Panel on Climate Change 2014 and 2018).

[1] Although some project components would be located in unincorporated San Luis Obispo County, the County of San Luis Obispo would not own or operate any of the project components and therefore would not have purview over GHG emissions associated with the proposed project because these emissions would not be included in their GHG inventory. Therefore, GHG reduction plans and policies adopted by the County of San Luis Obispo are not included in this analysis because they would not be applicable to the proposed project.

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snow pack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (State of California 2018). While there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally-specific climate change case studies (State of California 2018). A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Higher temperatures are conducive to air pollution formation and could worsen air quality in California as they rise. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. As temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality would worsen, but if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution. This would effectively reduce the number of large wildfires, thereby ameliorating the pollution associated with them. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Natural Resources Agency 2009).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (State of California 2018). The Sierra snowpack provides the majority of California's water supply, as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and result in less snowfall at lower elevations, thereby reducing the total snowpack (State of California 2018). Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding (State of California 2018). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, observed by satellites, ocean buoys, and land gauges, was approximately 3.2 millimeters per year, double the twentieth century trend of 1.6 millimeters per year. Global mean sea levels averaged over the last decade were about 0.20 meter higher than those of 1880 (World Meteorological Organization 2013). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent Intergovernmental Panel on Climate Change report predicts a mean sea-level rise of 0.25 to 0.94 meter by 2100 (Intergovernmental Panel on Climate Change 2018). A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to salt water intrusion and induce groundwater flooding and/or exposure of buried infrastructure (State of California 2018). Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has a $50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food and Agriculture 2019). Higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, but if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent. This would increase water demand as hotter conditions lead to the loss of soil moisture; crop-yield could be threatened by water-induced stress and extreme heat waves; and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). Temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on the global and local scales. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century (State of California 2018). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018).

d. Regulatory Setting

Federal

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor-vehicle GHG

emissions under the federal Clean Air Act. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 S. Ct. 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants, may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

State

The CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The "California Global Warming Solutions Act of 2006," AB 32, outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 million metric tons of CO_2e. CARB approved the Scoping Plan on December 11, 2008 and the Plan included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed SB 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use

development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017).

Senate Bill 375

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations are required to adopt a Sustainable Communities Strategy, which allocates land uses in the Metropolitan Planning Organization's Regional Transportation Plan. Qualified projects consistent with an approved Sustainable Communities Strategy or Alternative Planning Strategy (categorized as "transit priority projects") would receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The SLOCOG was assigned targets of a 3 percent reduction in GHGs from transportation sources by 2020 and an 11 percent reduction in GHGs from transportation sources by 2035. SLOCOG adopted the 2019 Regional Transportation Plan in June 2019, which includes the region's Sustainable Communities Strategy and meets the requirements of SB 375 (SLOCOG 2019).

Senate Bill 1383

Adopted in September 2016, SB 1383 requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery, in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, the former Governor Brown issued EO B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

California Building Standards Code

CALIFORNIA CODE OF REGULATIONS, TITLE 24 – CALIFORNIA BUILDING CODE

The California Code of Regulations Title 24 is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The CBC's energy-efficiency and green building standards are outlined below.

Part 6 – Building Energy Efficiency Standards/Energy Code

California Code of Regulations Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

The 2019 Title 24 standards are the applicable building energy efficiency standards for the project because they became effective on January 1, 2020. In general, under the 2019 Standards, nonresidential buildings will be 30 percent more energy-efficient compared to the 2016 Standards (CEC 2018). In addition, per Section 110.10, non-residential buildings must incorporate the following solar zone area (see the 2019 Standards for exceptions):

- Minimum area of 15 percent of the total roof area excluding any skylight area for nonresidential buildings with three habitable stories or fewer (other than healthcare facilities)

Solar zones must be comprised of areas that have no dimension less than five feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. See the 2019 Standards for additional requirements regarding the azimuth, shading, interconnection pathways, and electrical service panels of solar zones.

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Code). The 2016 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;
- 50 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency; and

- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

The voluntary standards require:

- **Tier I**: 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content for building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof; and
- **Tier II**: 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content for building materials, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms for new non-residential buildings. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

California Integrated Waste Management Act (Assembly Bill 341)

The California Integrated Waste Management Act of 1989, as modified by AB 341 in 2011, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities and (2) diversion of 50 percent of all solid waste on and after January 1, 2000. The California Department of Resources Recycling and Recovery is required to develop strategies, including source reduction.

California Environmental Quality Act

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the CEQA Guidelines for determining the effects and feasible mitigation of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts, including the SLOAPCD, have adopted quantitative significance thresholds for GHGs.

For more information on the Senate and Assembly bills, executive orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

RELEVANT CASE LAW

Center for Biological Diversity v. California Department of Fish and Wildlife (Case No. 217763)

The California Supreme Court's decision in the *Center for Biological Diversity v. California Department of Fish and Wildlife* was published on November 30, 2015. This decision evaluated the methodology used to analyze GHG emissions in an Environmental Impact Report prepared for the

Newhall Ranch development project that included approximately 20,885 dwelling units with 58,000 residents on 12,000 acres of undeveloped land in Los Angeles County. The Environmental Impact Report used a business-as-usual approach to evaluate whether the project would be consistent with the AB 32 Scoping Plan. The Court found there was insufficient evidence in the record of that project to explain how a project that reduces its GHG emissions by the same percentage as the business-as-usual reduction identified for the State to meet its statewide targets supported a conclusion that the project impacts were below a level of significance.

The California Supreme Court suggested regulatory consistency as a pathway to compliance, by stating that a lead agency might assess consistency with the State's GHG reduction goals by evaluating for compliance with regulations designed to reduce GHG emissions. This approach is consistent with CEQA Guidelines Section 15064.4(b), which provides that a determination of an impact is not cumulatively considerable to the extent to which the project complies with regulations or requirements implementing a statewide, regional, or local plan to reduce or mitigate GHG emissions. The Court also found that a lead agency may rely on numerical and efficiency-based thresholds of significance for GHG emissions, if supported by substantial evidence.

Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego (Case No. 072406)

The Fourth District Court of Appeal decision in the *Golden Door Properties, LLC v. County of San Diego* case (published on September 28, 2018) evaluated the County of San Diego's 2016 Guidance Document's GHG efficiency metric, which establishes a generally applicable threshold of significance for proposed projects. The Court held that the County of San Diego is barred from using its 2016 Guidance Document's threshold of significance for GHG analysis of 4.9 MT of CO_2e per service person per year. The Court stated that the document violated CEQA because it was not adopted formally by ordinance, rule, resolution, or regulation through a public review process per CEQA Guidelines Section 15064.4(b)(3). The Court also found that the threshold was not supported by substantial evidence that adequately explained how a service population threshold derived from statewide data could constitute an appropriate GHG metric to be used for all projects in unincorporated San Diego County. Nevertheless, lead agencies may make project-specific GHG threshold determinations.

Local Regulations

2019 Regional Transportation Plan

SLOCOG is the federally-designated Metropolitan Planning Organization and a regional planning agency for San Luis Obispo County. SLOCOG addresses regional issues related to transportation, the economy, community development, and the environment and produces the region's Regional Transportation Plan and Sustainable Communities Strategy, which address regional development and growth forecasts. The 2019 Regional Transportation Plan provides the following seven goals aimed at integrated land use and transportation planning, which are accompanied by specific policy objectives (SLOCOG 2019):

1. Preserve the transportation system
2. Improve intermodal mobility and accessibility for all people
3. Support a vibrant economy
4. Improve public safety and security

5. Foster livable, healthy communities and promote social equity
6. Practice environmental stewardship
7. Practice financial stewardship

Local Climate Action Plans

As discussed under *Local Emissions Inventory*, the Cities of Pismo Beach, Grover Beach, and Arroyo Grande, as well as SSLOCSD and OCSD have purview over project-related GHG emissions. Only the Cities of Pismo Beach, Grover Beach, and Arroyo Grande have adopted Climate Action Plans, which are discussed in detail below.

CITY OF PISMO BEACH

In its 2014 Climate Action Plan, the City set a target of reducing GHG emissions by 10 percent below 2005 levels by 2020. The following measures and actions from the City's Climate Action Plan would apply to the proposed project (City of Pismo Beach 2014):

- **Measure C-4 Renewable Energy Systems on City Property.** Pursue on-site small-scale renewable energy generation at City government facilities.
  - **Action C-4.2:** Install small-scale solar photovoltaic systems, solar hot water heaters, or other renewable energy projects at select City government facilities.
- **Measure C-7 City Government Solid Waste Reduction.** Establish a 25 percent solid waste diversion rate over 2005 baseline levels and identify steps to meet that rate by 2020.
  - **Action C-7.2:** Install recycling receptacles at City-owned or -operated buildings and facilities.

CITY OF GROVER BEACH

In its 2014 Climate Action Plan, the City of Grover Beach set a target of reducing GHG emissions by 15 percent below 2005 levels by 2020, consistent with AB 32. None of the measures and actions from the City's Climate Action Plan would apply to the project components owned and operated by the City of Grover Beach (i.e., the existing production wells) (City of Grover Beach 2014).

CITY OF ARROYO GRANDE

In its 2013 Climate Action Plan, the City of Arroyo Grande set a target of reducing GHG emissions by 15 percent below 2005 levels by 2020, consistent with AB 32. None of the measures and actions from the City of Arroyo Grande's Climate Action Plan would apply to the project components owned and operated by the City of Arroyo Grande (i.e., the existing production wells) (City of Arroyo Grande 2013).

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Calculations of carbon dioxide, methane, and nitrous oxides emissions are provided to identify the magnitude of potential project effects. Emissions of all GHGs are converted into their equivalent global warming potential in terms of carbon dioxide (CO_2e). Minimal amounts of other GHGs (such

as chlorofluorocarbons) would be emitted during project operation; however, these other GHG emissions would not substantially add to the total quantities of CO_2e.

GHG emissions from construction and operation of the project were estimated using CalEEMod version 2016.3.2 and RCEM version 9.0 based on project-specific information in accordance with conservative assumptions outlined in Section 4.1, *Air Quality,* and the methodology described below.

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from the CARB, the USEPA, and emission factor values provided by the local air district (California Air Pollution Control Officers Association 2017).

Emissions from energy use include electricity and natural gas use. The default electricity consumption values in CalEEMod include the California Energy Commission-sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies. Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt-hour (California Air Pollution Control Officers Association 2017). The project would be served by PG&E. Therefore, PG&E's specific energy intensity factors (i.e., the amount of carbon dioxide, methane, and nitrous oxides per kilowatt-hour) are used in the calculations of GHG emissions. The energy intensity factors included in CalEEMod are based on 2009 data by default at which time PG&E had only achieved a 14.1 percent procurement of renewable energy. Per SB 100, the statewide Renewable Portfolio Standard Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. To account for the continuing effects of the Renewable Portfolio Standard, the energy intensity factors included in CalEEMod were reduced based on the percentage of renewables reported by PG&E. PG&E energy intensity factors that include this reduction are shown in Table 4.6-1.

Table 4.6-1 PG&E Energy Intensity Factors

	2009 (lbs/MWh)	2030 (lbs/MWh)
Percent procurement	14% [1]	60% [2]
Carbon dioxide (CO_2)	641.35	298.35
Methane (CH_4)	0.029	0.014
Nitrous oxide (N_2O)	0.006	0.003

lbs = pounds; MWh = megawatt-hour

[1] Source: California Public Utilities Commission 2011

[2] Renewable Portfolio Standard goal established by SB 100

Energy usage by the ATF building (excluding energy consumed by the pump station and treatment process equipment) was reduced by 30 percent to account for the requirements of 2019 Title 24 standards (CEC 2018). In addition, because CalEEMod does not provide an appropriate proxy for the pump station and advanced treatment process, these energy emissions were calculated separately

using CalEEMod energy emissions factors for PG&E as adjusted for the 2030 Renewable Portfolio Standard requirement (see Table 4.6-1).[2] See Appendix C for calculations.

For mobile sources, carbon dioxide and methane emissions from vehicle trips to and from the project site were quantified using CalEEMod. Because CalEEMod does not calculate nitrous oxides emissions from mobile sources, nitrous oxides emissions were quantified using guidance from the CARB and the EMFAC2017 Emissions Inventory for the SLOAPCD region for the year 2030 (the next State milestone target year for GHG emission reductions) using the EMFAC2011 categories (CARB 2018 and 2019b; see Appendix C for calculations).

Emissions from waste generation were also calculated in CalEEMod and are based on the Intergovernmental Panel on Climate Change's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (California Air Pollution Control Officers Association 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery.

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for northern and southern California. However, CalEEMod does not incorporate water use reductions achieved by CALGreen (Part 11 of Title 24). The proposed project would be subject to CALGreen, which requires a 20 percent increase in indoor water use efficiency. Thus, in order to account for compliance with CALGreen, a 20 percent reduction in indoor water use was included in the water consumption calculations for new development.

SLOAPCD recommends amortizing construction emissions over the life of the project, which it states is 50 years for residential projects and 25 years for commercial projects (SLOAPCD 2012a). SLOAPCD does not provide a recommendation for water infrastructure projects; therefore, this analysis conservatively utilizes a project life of 25 years. Amortized construction emissions are then added to annual operational GHG emissions to calculate a combined total annual emissions quantity.

Significance Thresholds

Based on Appendix G of the CEQA Guidelines, impacts related to GHG emissions from the project would be significant if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable"

[2] As discussed in Section 4.1, *Air Quality*, treating a portion of secondary effluent via MF/UF and pumping recycled water to agricultural lands south of Oceano would require overall lower energy usage than purifying secondary effluent via the full treatment process and pumping the advanced purified water to the injection wells; therefore, potential energy usage for agricultural irrigation is included in the overall energy usage estimate for the pump station and advanced treatment process.

means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

CEQA Guidelines Section 15064.4(b) states:

> A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> 1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
> 2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
> 3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Neither the City nor SSLOCSD has adopted a quantitative threshold of significance for evaluating GHG emissions. SLOAPCD has developed a threshold of 10,000 MT of CO_2e per year for stationary-source projects, which are defined as land uses that would accommodate processes and equipment that directly emit GHG emissions on site and would require a discretionary SLOAPCD permit to operate. The proposed project does not fall within this classification because it would not include stationary on-site sources of GHG emissions that would require a discretionary SLOACPD permit to operate; therefore, the stationary-source threshold is not applicable.[3] In addition, the thresholds of significance adopted by SLOAPCD were developed in light of the AB 32 target of a 15 percent reduction in 1990 GHG emission levels by 2020 (SLOAPCD 2012b). However, the proposed project would have a post-2020 buildout year; therefore, these quantitative thresholds of significance are not applicable to the proposed project. Furthermore, the Climate Action Plans adopted by the Cities of Pismo Beach, Grover Beach, and Arroyo Grande are not qualified GHG reduction plans per CEQA Guidelines Section 15183.5(b) because the proposed project has a post-2020 buildout year and these Climate Action Plans do not establish a GHG emissions reduction target for year 2030 consistent with the target set by SB 32. As a result, this analysis qualitatively evaluates the significance of the project's GHG emissions in light of the checklist questions from Appendix G of the CEQA Guidelines as well as CEQA Guidelines Sections 15064.4(b)(1) and 15064.4(b)(3). GHG emissions are quantified for informational purposes only in the interest of public disclosure.

[3] The project may include an emergency generator; however, permits for emergency generators are ministerial in nature.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 PROJECT CONSTRUCTION AND OPERATION WOULD GENERATE TEMPORARY AND LONG-TERM INCREASES IN GHG EMISSIONS. HOWEVER, THE PROJECT WOULD BE CONSISTENT WITH THE STATE'S LONG-TERM CLIMATE GOALS AND STRATEGIES OUTLINED IN THE 2017 SCOPING PLAN. THEREFORE, PROJECT-RELATED GHG EMISSIONS WOULD NOT RESULT IN A POTENTIALLY SIGNIFICANT CONTRIBUTION TO CLIMATE CHANGE, AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction Emissions

Project construction would generate temporary GHG emissions primarily from diesel-powered construction equipment as well as from vehicles transporting construction workers to and from the project area and heavy trucks transporting building materials, construction equipment, and soil. Site preparation and grading typically generate the greatest amount of emissions due to hauling trips and the use of grading equipment. As described in Section 2, *Project Description*, construction activities would occur in two phases. Phase I would consist of the construction of four injection wells (IW-1, IW-2A, IW-3, and IW-5A), the monitoring wells, the production well, the water distribution pipelines, and the ATF complex. Phase II would consist of the construction of the remaining two injection wells (IW-2B and IW-5B), approximately 40 feet of water distribution pipelines, the agricultural irrigation pipelines, and expansion upgrades to the ATF complex. Estimated GHG emissions for both Phases I and II of construction are summarized in Table 4.6-2. As shown therein, project construction would generate approximately 3,959 MT of CO_2e, or approximately 158 MT of CO_2e per year when amortized over a 25-year period (the assumed project lifetime per SLOAPCD guidance).

Table 4.6-2 Estimated GHG Emissions during Construction (Phases I and II)

Project Component	Emissions (MT of CO_2e)
Injection, Monitoring, and Production Wells[1]	2,370.4
Water Distribution Pipelines	280.0
Agricultural Irrigation Pipelines	556.1
Advanced Treatment Facility[2]	752.2
Total	3,958.7
Amortized over estimated project lifetime (25 years)[1]	**158.3**

MT = metric tons; CO_2e = carbon dioxide equivalents; GHG = greenhouse gas; CalEEMod = California Emissions Estimator Model; RCEM = Roadway Construction Emissions Model

[1] Emissions from one injection/production well and two monitoring wells were modeled, then multiplied by seven (six injection wells with associated monitoring wells and one production well) to estimate total GHG emissions from construction activities.

[2] Phase II of construction would include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

Notes: All emissions modeling was completed using CalEEMod and RCEM. See Appendix C for modeling results.

Combined Annual Emissions

The proposed project would generate long-term GHG emissions from new vehicle trips (mobile emissions), use of electricity and natural gas (energy emissions), solid waste disposal, water use, and landscaping equipment (area emissions). Table 4.6-3 summarizes and combines the amortized construction and operational GHG emissions associated with the project for year 2030 (next milestone GHG target year per the 2017 Scoping Plan). As shown therein, combined annual GHG emissions would be approximately 1,703 MT of CO_2e per year.

Table 4.6-3 Combined Annual GHG Emissions

Emission Source	Project Emissions (MT of CO_2e per year)
Construction	158.3
Operational	
Area	<0.1
Energy	
ATF Building	62.0
ATF Treatment Process and Pump Station	1,082.7
Groundwater Pumping	346.5
Mobile	
CO_2 and CH_4	29.1
N_2O	1.1
Solid Waste	15.6
Water	7.2
Total Emissions	**1,702.5**

MT = metric tons; CO_2e = carbon dioxide equivalents; ATF = advanced treatment facility complex; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CalEEMod = California Emissions Estimator Model; RCEM = Roadway Construction Emissions Model

See Appendix C for CalEEMod and RCEM results, ATF and groundwater pumping energy calculation sheets, and nitrous oxides mobile emissions calculation sheets.

One of the primary sources of GHG emissions associated with the pumping, conveyance, treatment, and distribution of water and wastewater is the use of energy. The 2017 Scoping Plan acknowledges that "the water-energy nexus provides opportunities for conservation of these natural resources as well as reductions of GHG emissions" (CARB 2017). The 2017 Scoping Plan also points to groundwater remediation and recharge as a means of "meeting new water demands and sustaining prosperity" (CARB 2017). Statewide emissions reduction strategies for the water sector are aimed at reducing the energy intensity of water, which is "the amount of energy required to take a unit of water from its origin (such as a river or aquifer) and extract and convey it to its end use" (CARB 2017).

The following goals from the 2017 Scoping Plan would be applicable to the proposed project:

- Develop and support more reliable water supplies for people, agriculture, and the environment, provided by a more resilient, diversified, sustainably managed water resources system with a focus on actions that provide direct GHG reductions.
- Make conservation a California way of life by using and reusing water more efficiently through greater water conservation, drought tolerant landscaping, stormwater capture, water recycling, and reuse to help meet future water demands and adapt to climate change.

- Reduce the carbon footprint of water systems and water uses for both surface and groundwater supplies through integrated strategies that reduce GHG emissions while meeting the needs of a growing population, improving public safety, fostering environmental stewardship, aiding in adaptation to climate change, and supporting a stable economy.

The proposed project would include water recycling and reuse to improve water supply reliability; create a sustainable, drought-resistant local water supply for southern San Luis Obispo County; and provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion. In doing so, the proposed project would stabilize and protect the existing local water supply and would reduce the need for the NCMA agencies to compensate for the decreased availability of local groundwater supplies due to water quality degradation by importing additional future water supplies (beyond those already planned to accommodate growth), which would have a greater energy intensity than existing water supplies. Furthermore, as shown in Table 4.6-3, the majority of project-related GHG emissions would be generated by electricity used to power the treatment process and pump station. Therefore, as the requirements of the Renewable Portfolio Standard continue to phase in through 2045, annual GHG emissions generated by project operation will decrease correspondingly. As a result, the project would be consistent with the State's long-term climate goals and strategies as outlined in the 2017 Scoping Plan, and project-related GHG emissions would be less than significant.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-2 THE PROPOSED PROJECT WOULD BE POTENTIALLY INCONSISTENT WITH THE CITY'S CLIMATE ACTION PLAN, AND IMPLEMENTATION OF MITIGATION MEASURE GHG-2 WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

As discussed under Section 4.6.1(d), *Regulatory Setting*, several plans have been adopted to reduce GHG emissions at the statewide, regional, and local levels. As discussed in detail under Impact GHG-1, the proposed project would be consistent with the State's 2017 Scoping Plan. As discussed under *Local Emissions Inventory*, the Cities of Pismo Beach, Grover Beach, and Arroyo Grande as well as SSLOCSD and OCSD also have purview over project-related GHG emissions. Of these jurisdictions, only the Cities of Pismo Beach, Grover Beach, and Arroyo Grande have adopted Climate Action Plans. As discussed in Section 4.6.2(a), *Methodology and Significance Thresholds*, these Climate Action Plans are not qualified for tiering and streamlining the analysis of the project's GHG emissions per CEQA Guidelines Section 15183.5(b). However, the project's consistency with the GHG emissions reduction measures contained in these Climate Action Plans should still be evaluated.

Of the three Climate Action Plans, only the City's Climate Action Plan includes measures and actions applicable to the proposed project. The project's consistency with the City's Climate Action Plan is summarized in Table 4.6-4. As discussed therein, the project would be potentially inconsistent with several of the measures and actions in the City's Climate Action Plan; therefore, impacts would be potentially significant. Implementation of Mitigation Measure GHG-1, which requires inclusion of the City's Climate Action Plan measures in the proposed project, would reduce impacts to a less-than-significant level.

Table 4.6-4 Project Consistency with the City's Climate Action Plan

Measures and Actions	Discussion
Measure C-4 Renewable Energy Systems on City Property. Pursue on-site small-scale renewable energy generation at City government facilities**.** **Action C-4.2:** Install small-scale solar photovoltaic systems, solar hot water heaters, or other renewable energy projects at select City government facilities.[1]	**Potentially Inconsistent.** It is unknown at this time whether the ATF complex would include a solar photovoltaic system because design details are not yet available.
Measure C-7 City Government Solid Waste Reduction. Establish a 25 percent solid waste diversion rate over 2005 baseline levels and identify steps to meet that rate by 2020. **Action C-7.2**: Install recycling receptacles at City-owned or -operated buildings and facilities.	**Potentially Inconsistent.** It is unknown at this time whether the project would include recycling receptacles at the ATF complex because design details are not yet available.

ATF = advanced treatment facility

[1] It is conservatively assumed that the proposed project falls within the category of "select City government facilities."

Source: City of Pismo Beach 2014

Mitigation Measure

GHG-2 GHG Emission Reduction Measures

The proposed project shall implement the following GHG emission reduction measures, as identified in the City's Climate Action Plan:

- The ATF complex shall include a solar photovoltaic system.
- The ATF complex shall include recycling receptacles.

Significance After Mitigation

Implementation of Mitigation Measure GHG-2 would potentially achieve project consistency with the City's Climate Action Plan. Therefore, impacts would be less than significant with mitigation incorporated.

c. Cumulative Impacts

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. Therefore, GHG emissions and climate change are, by definition, cumulative impacts. As discussed under Section 4.6.1(c), *Potential Effects of Climate Change*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. Refer to Impacts GHG-1 and GHG-2 for detailed discussions of the impacts of the proposed project related to climate change and GHG emissions. As discussed therein, with implementation of Mitigation Measure GHG-2, project impacts would be less than significant and would therefore not be cumulatively considerable.

4.7 Hazards and Hazardous Materials

This section addresses potential impacts associated with hazardous materials, airports, wildfires, emergency access, and hazards to schools. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.7.1 Setting

a. Hazardous Materials/Waste Sites

The following databases were searched in December 2019 for records related to any known hazardous materials/waste contamination within the project area:

- USEPA Superfund Enterprise Management System database (USEPA 2019);
- SWRCB (2019a) GeoTracker search for leaking underground fuel tanks;
- California Department of Toxic Substances Control (DTSC; 2019) EnviroStor database;
- SWRCB (2019b) solid waste disposal sites, active Cease and Desist Orders, and Cleanup and Abatement Orders; and
- Cortese list (California Environmental Protection Agency 2019).

No active hazardous materials/waste contamination sites within the project area were identified on any of these lists. Furthermore, no sites within the project area are suspected to have been used for past mining activities.

b. Airport Safety Hazards

Oceano County Airport, located at 561 Air Park Drive in the community of Oceano in unincorporated San Luis Obispo County, is the only airport within the project area. Oceano County Airport is a small, general aviation airport serving private aviators (City of Grover Beach 2010). No air traffic control, radar or instrument approach services are provided; however, pilot-controlled lighting is provided for night operations. Scheduled air carrier service is not currently provided, nor is such service anticipated in the foreseeable future (San Luis Obispo County Airport Land Use Commission 2007). Parts of the project area are within the Oceano County Airport Land Use Plan area.

c. Schools

The nearest schools to the project area are Grover Heights Elementary School, Grover Beach Elementary School, Dandy Lion Montessori School, and Fairgrove Elementary School in Grover Beach; Oceano Elementary School in unincorporated San Luis Obispo County; and Ocean View Elementary School and Harloe Elementary School in Arroyo Grande. See Figure 3-2 in Section 3, *Environmental Setting*, for a map of schools in the project area. The schools nearest to project components with known locations are Dandy Lion Montessori School, which is located approximately 0.3 mile northeast of MW-3D/3E; Grover Beach Elementary School, which is located approximately 0.3 mile east of MW-1C/1D; and Oceano Elementary School, which is located approximately 0.3 mile east of MW-5D/5E/5F.

d. Wildfire

San Luis Obispo County is exposed to a range of wildfire hazard conditions that vary based on fuels, topography, weather, and human behavior. According to the California Department of Forestry and Fire Protection's (CAL FIRE) Fire Hazard Severity Zones map, the project area is not located within a Very High Fire Hazard Severity Zone (VHFHSZ). As shown in Figure 4.7-1, the closest VHFHSZ in the Pismo Beach Local Responsibility Area is on the north side of Pismo Beach, and the nearest State Responsibility Area VHFHSZs are located north of Pismo Beach and east of Arroyo Grande (CAL FIRE 2007 and 2009). MW-1C/1D, the project component with a known location closest to a VHFHSZ, would be located approximately 1.3 miles south of the nearest VHFHSZ.

Generally, Grover Beach and Oceano are not confronted with increased wildfire hazard. In the coastal communities, cool marine-influenced temperatures and relatively high humidity levels help to minimize potential wildfire risks (County of San Luis Obispo and San Luis Obispo County Flood Control and Water Conservation District 2014).

e. Regulatory Setting

Federal

United States Department of Transportation Hazardous Materials Transport Act

The United States Department of Transportation, in conjunction with the USEPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 (49 United States Code 5101) directs the United States Department of Transportation to establish criteria and regulations regarding the safe storage and transportation of hazardous materials. Title 49 Code of Federal Regulations Parts 171 to 180, defines the types of material classified as hazardous, regulates the transportation of hazardous materials, and specifies the marking of vehicles transporting hazardous materials.

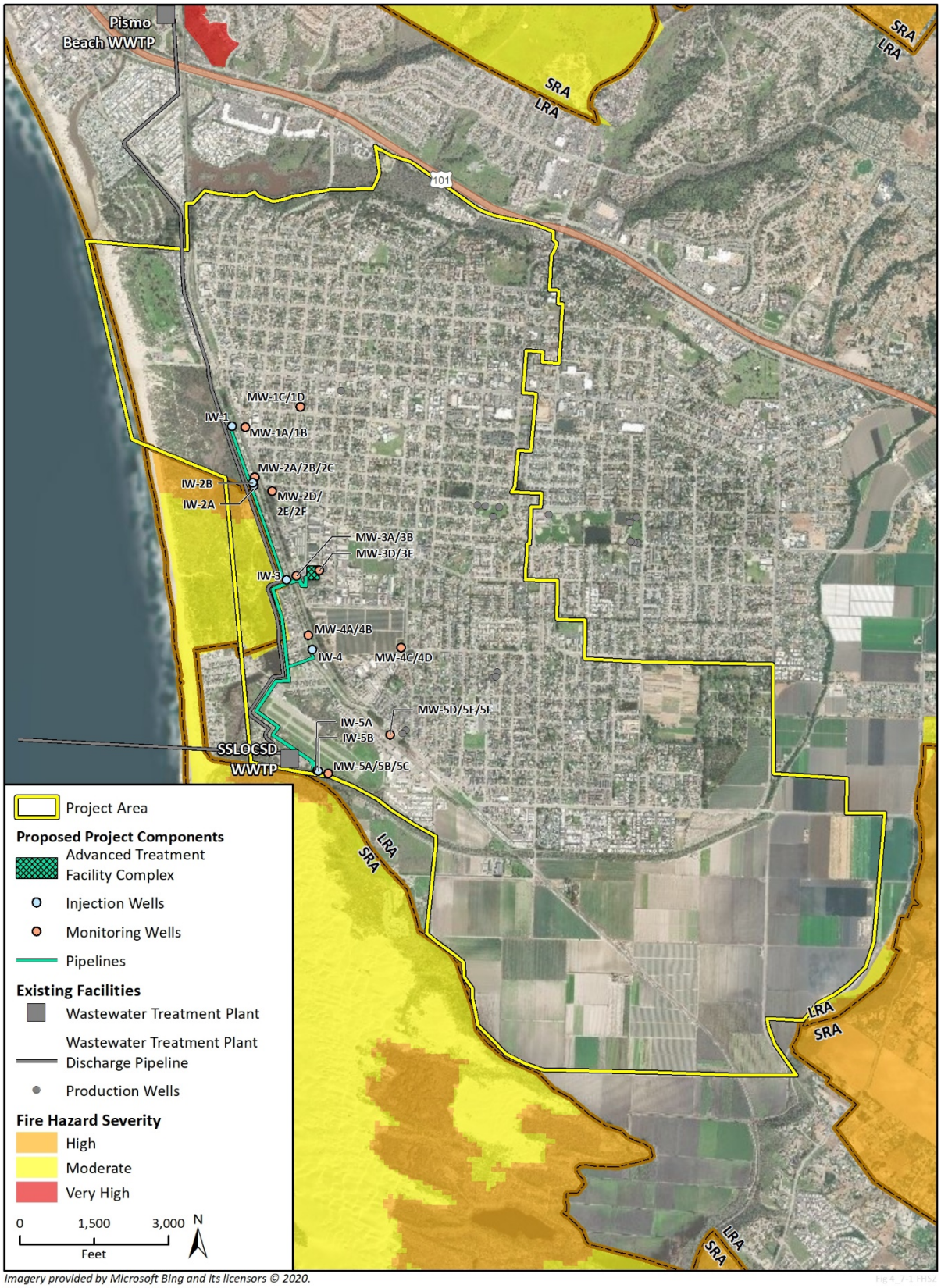
Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act of 1976 gives the USEPA the authority to control hazardous waste from "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resource Conservation and Recovery Act also sets forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to the Resource Conservation and Recovery Act enabled the USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Title 40 Code of Federal Regulations

Title 40 Code of Federal Regulations Part 264 "Standards for Owners of Hazardous Waste Treatment, Storage and Disposal Facilities," establishes minimum national standards which define the acceptable management of hazardous waste. This standard applies to owners and operators of all facilities which treat, store, or dispose of hazardous waste.

Figure 4.7-1 Wildfire Hazard Areas



Imagery provided by Microsoft Bing and its licensors © 2020.
Additional data provided by CAL FIRE, 2007.

State

California Occupational Safety and Health Act

The California Occupational Safety and Health Act of 1973 addresses California employee working conditions, enables the enforcement of workplace standards, and provides for advancements in the field of occupational health and safety. The California Occupational Safety and Health Act also created the California Occupational Safety and Health Administration (Cal OSHA), the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal OSHA's standards are generally more stringent than federal regulations promulgated by the United States Department of Labor Occupational Safety and Health and Administration. Under Cal OSHA standards, employers are required to monitor worker exposure to listed hazardous substances and notify workers of exposure. The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings. At sites known or suspected to be contaminated by hazardous materials, workers must have training in hazardous materials operations, and a Site Health and Safety Plan must be prepared. The Health and Safety Plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Hazardous Waste Permit Program

California Health and Safety Code Title 22, Division 4.5, Chapter 20, *Hazardous Waste Permit Program*, establishes provisions for the issuance and administration of hazardous waste permits pursuant to the Health and Safety Code. Regulations cover basic permitting requirements, such as applications, standard permit conditions, and monitoring and reporting. Hazardous Waste Permits are required for the transfer, treatment, storage, and disposal of any waste classified as hazardous waste pursuant to California Health and Safety Code Section 66261.3. Owners and operators of certain facilities are required to obtain hazardous waste facility permits as well as permits under other programs for certain aspects of facility operation.

Hazardous Waste Control Law

California Health and Safety Code Division 20, Chapter 6.5, *Hazardous Waste Control Law*, regulates the safe disposal of hazardous wastes generated within California. The law identifies proper guidance for the handling, storage, use, and disposal of hazardous wastes. Additionally, the Hazardous Waste Control Law identifies the need for proper landfill disposal in order to reduce long-term threats to public health and to air and water quality.

Hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Discharges of Hazardous Waste to Land

California Code of Regulations Title 23, Chapter 15, *Discharges of Hazardous Waste to Land*, Section 2511(b) pertains to water quality aspects of waste discharge to land. The regulation establishes waste and site classifications and waste management requirements for waste treatment, storage, or disposal of hazardous waste in landfills, surface impoundments, waste piles, and land treatment facilities. Requirements are minimum standards for proper management of each waste category, which allow regional water boards to impose more stringent requirements to accommodate

regional and site-specific conditions. In addition, the requirements of California Code of Regulations Title 23, Chapter 15, apply to cleanup and abatement actions for unregulated discharges to land of hazardous waste (e.g. spills).

Transportation of Hazardous Material

Caltrans regulates hazardous materials transportation on all interstate roads through California Vehicle Code Division 14.1, *Transportation of Hazardous Material*. Within California, the State agencies with primary responsibility for enforcing federal and State regulations and for responding to transportation emergencies are the California Highway Patrol and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications for vehicles transporting hazardous materials.

California Fire Code, Title 24, Part 9

The 2019 California Fire Code (Title 24, Part 9) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy classification, location, maintenance, removal, and demolition of every building or structure throughout California.

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private entities. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services, which coordinates the responses of other agencies. The Riverside County Environmental Health Department's Emergency Response Team provides the capabilities for hazardous materials emergencies within the project area. Emergency Response Team members respond and work with local fire and police agencies, California Highway Patrol, California Department of Fish and Wildlife, Caltrans, United States Coast Guard and National Marine Sanctuary personnel.

Local

Project components would be constructed only in Grover Beach and unincorporated San Luis Obispo County. Therefore, this subsection focuses on local policies and regulations related to hazards and hazardous materials promulgated by the County of San Luis Obispo and the City of Grover Beach.

San Luis Obispo County General Plan

The County of San Luis Obispo has incorporated planning policies in its General Plan that are relevant to assessing and analyzing hazards within the county. The Land Use Element, Open Space and Conservation Element, and Safety Element include strategic goals and policies for addressing issues related to hazards and hazardous materials in the county and project area (County of San Luis Obispo 2018).

San Luis Obispo County Emergency Operations Plan

The San Luis Obispo County Emergency Operations Plan addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and

national security emergencies in or affecting San Luis Obispo County. A key intent of the County's Emergency Operations Plan is to explain how overall emergency management is coordinated countywide, to address concerns related to continuity of government for the County of San Luis Obispo, and related emergency management issues. The Emergency Operations Plan is also intended to serve as a policy and planning reference (County of San Luis Obispo 2016).

San Luis Obispo County and San Luis Obispo County Flood Control and Water Conservation District Local Hazard Mitigation Plan

The goal of the Local Hazard Mitigation Plan is to arrive at practical, meaningful, attainable and cost-effective mitigation solutions to minimize vulnerability to the identified hazards and ultimately reduce both human and financial losses subsequent to a disaster. The Local Hazard Mitigation Plan works in conjunction with other County plans, including the General Plan. The plan includes risk and vulnerability assessments to determine goals and objectives for reducing long-term vulnerability to the identified hazards, which include earthquake, faults, and liquefaction; wildfire; extreme weather; coastal storms and erosion; biological agents; agricultural pest infestation and plant disease; tsunami and seiche; floods; and landslides (County of San Luis Obispo and San Luis Obispo County Flood Control and Water Conservation District 2014). As of May 2020, the County is in the process of updating the Local Hazard Mitigation Plan with a public review draft released in October 2019.

City of Arroyo Grande, City of Grover Beach, Lucia Mar Unified School District, and South San Luis Obispo County Sanitation District Multi-Jurisdictional Local Hazard Mitigation Plan

The Cities of Arroyo Grande and Grover Beach, South San Luis Obispo County Sanitation District (SSLOCSD), and the Lucia Mar Unified School District's Local Hazard Mitigation Plan assesses the planning capabilities of each jurisdiction and includes risk assessments to identify and evaluate natural and man-made hazards. The Local Hazard Mitigation Plan includes a comprehensive range of specific, attainable mitigation actions for each jurisdiction and contains an action plan that entails adopting, implementing, assigning responsibility, monitoring, and reviewing the Local Hazard Mitigation Plan over time to ensure the goals and objectives are being achieved (City of Grover Beach 2017).

City of Grover Beach General Plan Safety Element

The Safety Element of the City of Grover Beach General Plan addresses emergency preparedness and provides standards for reducing the risk of hazard exposure. The Safety Element focuses on building outside of flood- and fire-prone areas and on stable ground (City of Grover Beach 2010). Risks of natural and human-caused hazards are separated into categories of acceptable risk, unacceptable risk, and avoidable risk using factors such as severity of potential losses, probability of loss, capacity to reduce risk, and adequacy of knowledge.

4.7.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

The assessment of impacts related to hazards and hazardous materials addresses the potential to encounter hazardous substances in soil and groundwater during project construction and operation, as well as potential use and disposal of hazardous materials or waste during operation and maintenance of the proposed project. The evaluation was performed based on current conditions in the project area; information from environmental databases, applicable regulations, and guidelines; and proposed construction and operational activities. Relationships and proximities of the project area to schools, airports, and fire hazard zones were also identified and evaluated.

Significance Thresholds

In accordance with Appendix G of the CEQA Guidelines, an impact related to hazards and hazardous materials would be significant if the proposed project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- 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, create a significant hazard to the public or the environment;
- 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, result in a safety hazard or excessive noise for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, 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.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Threshold:	Would the project 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?

Impact HAZ-1 CONSTRUCTION AND OPERATION OF THE PROJECT WOULD INCREASE THE ROUTINE TRANSPORT AND USE OF HAZARDOUS MATERIALS IN THE PROJECT AREA BUT WOULD NOT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT. THE PROJECT HAS THE POTENTIAL TO RESULT IN RELEASE OF HAZARDOUS MATERIALS THROUGH REASONABLY FORESEEABLE UPSET OR ACCIDENT CONDITIONS DURING BOTH CONSTRUCTION AND OPERATION OF THE PROJECT. IMPLEMENTATION OF MITIGATION MEASURES HAZ-1(A), HAZ-1(B), BIO-3(C), AND HWQ-1 WOULD ADDRESS THIS IMPACT. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The project would involve construction and operation of an ATF complex, water distribution pipelines, agricultural irrigation pipelines, injection and monitoring wells, and a production well. Construction of the proposed project would temporarily increase the routine transport and use of hazardous materials commonly used in construction activities in the project area. Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials, would be brought into the project area then used and stored during project construction, resulting in a temporary increase in the potential to expose the public or the environment to hazardous materials. During project construction, implementation of established safety practices, procedures, and reporting requirements for hazardous materials would be followed to reduce any risks. However, it is reasonably foreseeable that accidental spills and releases of hazardous materials may occur over the course of project construction; therefore, impacts would be potentially significant. Implementation of Mitigation Measure HAZ-1(a), which includes preparation of a Hazardous Materials Management and Spill Prevention and Control Plan during project construction, would be required to reduce potential construction-related impacts resulting from the routine transport and storage of hazardous materials. This plan shall be prepared prior to commencement of construction activities by the construction contractor to outline policies for handling hazardous materials and procedures to address potential release of hazardous materials into the environment. Furthermore, implementation of Mitigation Measure BIO-3(c) outlined in Section 4.2, *Biological Resources*, requires implementation of construction BMPs, including measures for handling hazardous materials near jurisdictional areas such as Arroyo Grande Creek, which would further reduce the potential release of hazardous materials through foreseeable upset or accident conditions. As a result, construction impacts related to hazardous materials would be less than significant with mitigation incorporated.

Operation of the project would also involve limited use of hazardous materials, such as cleaning and degreasing solvents, caustic soda, sulfuric acid, sodium hypochlorite, ferric chloride, antiscalant, and other materials used in the regular maintenance of the ATF complex, pumps, and injection wells. These chemicals would be stored in a separate chemical storage area on site. Chemical deliveries to the ATF complex would occur approximately eight times per month, which would increase routine transport of hazardous materials in the project area. Trips to and from the injection well sites for operation and maintenance activities may also increase routine transport of hazardous materials, such as solvents. These trips would not pose a significant hazard to the public or the environment due to their infrequency and the low likelihood of exposure, which would only occur in the event of

an unforeseen accident and not as a result of typical operation and maintenance activities. Furthermore, the transportation, storage, use, and off-site disposal of hazardous materials would be managed in accordance with applicable laws and regulations to reduce the risk of hazards to the public.

The generally small quantities of hazardous materials to be used at the ATF complex would be stored, used, and disposed of in accordance with applicable regulations and therefore would not pose a significant hazard to the public or the environment. However, it is reasonably foreseeable that minor spills and/or accidental releases of hazardous materials could occur over the course of project operation. Therefore, operational impacts related to accidental release of hazardous materials would be potentially significant. Implementation of Mitigation Measure HAZ-1(b), which entails the creation and implementation of a Hazardous Materials Business Plan for the ATF complex, would be required. This measure would reduce the potential for adverse impacts to occur in the event of spills and/or accidental releases of hazardous materials. As a result, impacts would be less than significant with mitigation incorporated.

Refer to Section 4.8, *Hydrology and Water Quality*, regarding impacts related to acute and chronic toxicity as well as radioactivity of RO concentrate that would be discharged via the existing SSLOCSD ocean outfall. As discussed therein, implementation of Mitigation Measure HWQ-1 would be required to reduce impacts related to radioactive toxicity to a less-than-significant level.

Mitigation Measures

In addition to Mitigation Measures HAZ-1(a) and HAZ-1(b) detailed below, implementation of Mitigation Measure BIO-3(c) as outlined in Section 4.2, *Biological Resources*, and Mitigation Measure HWQ-1 as outlined in Section 4.8, *Hydrology and Water Quality*, would be required.

HAZ-1(a) Hazardous Materials Management and Spill Prevention and Control Plan

Prior to the start of construction, the construction contractor(s) shall prepare a Hazardous Materials Management and Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan shall be applicable to construction activities and shall establish policies and procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes and federal and Cal OSHA regulations, to minimize risks associated with hazardous materials spills. Elements of the Plan shall include, but would not be limited to the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas;
- Notification and documentation of procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

HAZ-1(b) Preparation of Hazardous Materials Business Plan

A Hazardous Materials Business Plan shall be prepared for the ATF complex. The Hazardous Materials Business Plan shall include, at a minimum, a hazardous materials inventory, site plan, emergency response plan, and requirements for employee training. The Hazardous Materials Business Plan shall be prepared prior to issuance of a certificate of occupancy for the ATF complex. The Hazardous Materials Business Plan shall inform staff and contractors of the chemicals that may

be used at the site and how to respond to potential hazardous material emergencies or exposure. Signage specified in the Hazardous Materials Business Plan shall be posted at the ATF complex and at associated chemical storage areas, and a copy of the hazardous materials inventory, site plan, and emergency response plan shall be kept at each chemical storage area. The hazardous materials inventory shall be consistent with chemicals ordered during operation and maintenance of the ATF complex.

Significance After Mitigation

Implementation of Mitigation Measures HAZ-1(a), HAZ-1(b), BIO-3(c), and HWQ-1 would address the potential release of hazardous materials into the environment and would reduce the potential for adverse impacts to occur in the event of spills and/or accidental releases of hazardous materials. Therefore, impacts would be less than significant with mitigation incorporated.

Threshold:	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Impact HAZ-2 **ALTHOUGH CONSTRUCTION ACTIVITIES FOR THE PROJECT WOULD BE CONDUCTED IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS FOR THE TRANSPORT, STORAGE, USE, AND DISPOSAL OF HAZARDOUS MATERIALS AND PRECAUTIONS WOULD BE TAKEN TO REDUCE POTENTIAL RISKS, THERE IS POTENTIAL FOR AN ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS WITHIN 0.25 MILE OF A SCHOOL. IMPLEMENTATION OF MITIGATION MEASURE HAZ-1(A) WOULD ADDRESS THIS IMPACT. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

The closest schools to known locations of project components are Dandy Lion Montessori School, Grover Beach Elementary School, and Oceano Elementary School, all of which are located approximately 0.3 mile away from project components with known locations. Other schools in the project area, listed in Section 4.6.1(c), *Schools*, and shown in Figure 3-2 in Section 3, *Environmental Setting*, may be located within 0.25 mile of the new production well and agricultural irrigation pipelines when their final locations are known.

Project construction activities would be conducted in compliance with all applicable regulations for the transport, storage, use, and disposal of hazardous materials, and precautions would be taken to reduce potential risks. Nevertheless, as discussed under Impact HAZ-1, there is potential for an accidental release of hazardous materials. Given the possible proximity of schools to project components with unknown locations, there is potential that an accidental release could occur within 0.25 mile of an existing or proposed school. As a result, impacts would be potentially significant. Implementation of Mitigation Measure HAZ-1(a), described under Impact HAZ-1, would be required. This mitigation measure entails development and implementation of a Hazardous Materials Management and Spill Prevention and Control Plan for project construction that will include measures for minimizing risks associated with accidental release of hazardous materials, including in proximity to existing or proposed schools. This measure would reduce the potential for adverse impacts to occur in the event of accidental releases of hazardous materials within 0.25 mile of a school. As a result, construction-related impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Implementation of Mitigation Measure HAZ-1(a) would be required (see Impact HAZ-1).

Significance After Mitigation

Implementation of Mitigation Measure HAZ-1(a) would address potential release of hazardous materials into the environment and would reduce the potential for adverse impacts to occur in the event of spills and/or accidental releases of hazardous materials in the vicinity of a school. Therefore, impacts would be less than significant with mitigation incorporated.

Threshold:	Would the project be located on a site that is included on a list of hazardous material 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?

Impact HAZ-3 PROJECT COMPONENTS WOULD NOT BE LOCATED ON A SITE INCLUDED ON A LIST OF HAZARDOUS MATERIALS SITES NOR WOULD IT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC. NO IMPACT WOULD OCCUR.

As discussed under Section 4.6.1(a), *Hazardous Materials Sites*, records searches of the USEPA Superfund Enterprise Management System, SWRCB GeoTracker, DTSC EnviroStor, and other relevant databases were completed to identify the presence of any active hazardous waste sites in the project area. No active hazardous materials sites were identified within the project area. Therefore, the proposed project would not create a significant hazard to the public or environment due to proximity to a hazardous materials site. No impact would occur.

Mitigation Measure

No mitigation is required.

Threshold:	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 or excessive noise for people residing or working in the project area?

Impact HAZ-4 THE PROJECT WOULD NOT RESULT IN A SAFETY HAZARD OR EXCESSIVE NOISE EXPOSURE FROM THE OCEANO COUNTY AIRPORT. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Oceano County Airport is located in the project area. As discussed in Section 4.8, *Land Use*, some components of the project would be located within the boundaries of the Oceano County Airport Land Use Plan. However, compliance with the requirements of the Airport Review Area combining designation would ensure no safety hazards would occur as a result of the proposed project. Furthermore, the project sponsors and their construction contractor(s) would be required to coordinate with the County of San Luis Obispo Department of Airports prior to and during construction of two approximately 2,200-linear-foot segments of water distribution pipelines within the boundaries of the Oceano County Airport property to ensure that appropriate safety measures are implemented and that airport operations can proceed safely (Piper 2020).

Several project components with known locations would be located within the single-event noise level contours for the Oceano County Airport. IW-4, MW-4A/4B, MW-4C/4D, and some water distribution pipelines would be located within the 65 dBA single-event noise level contour; MW-5D/5E/5F and some water distribution pipelines would be located within the 75 dBA single-event noise level contour; and IW-5A, IW-5B, MW-5A/5B/5C, and some water distribution pipelines would be located within the 85 dBA single-event noise level contour and within Oceano County Airport.

The remaining project components with known locations would be located outside the 65 dBA single-event noise level contour. As described in Section 4.10, *Noise*, although most of Grover Beach lies outside the single-event noise level contours of the airport, portions of the city are within the 65 and 75 dBA single-event noise level contours. Therefore, it is possible that the new production well and agricultural irrigation pipelines would be located within either the 65 or 75 dBA single-event noise level contour for the airport.

Construction workers at the injection well, monitoring well, and water distribution pipeline locations would be intermittently exposed to elevated noise levels during aircraft take-off and landing events, especially within the 75 and 85 dBA single-event noise level contours and on the Oceano County Airport property. However, as described in Section 4.10, *Noise*, construction noise would be the dominant source of noise exposure for construction workers. Furthermore, construction contractors would be required to comply with Cal OSHA regulations related to worker exposure to noise. Section 5096 of these regulations sets duration-based noise exposure limits for construction workers that require provision of personal protective equipment should exposure exceed the specified limits. These regulations would reduce construction worker exposure to high noise levels such that construction activities would not expose employees to excessive noise levels. Therefore, project construction would not expose workers to excessive noise levels, and construction-related impacts would be less than significant.

During operation, staff would work primarily at the ATF complex, which would be located outside of the 65 dBA single event noise contour for the airport. The majority of operations and maintenance activities would occur indoors. As discussed in Section 4.10, *Noise,* staff performing operations and maintenance activities at the above-mentioned wells and pipelines could be exposed to elevated noise levels ranging from 65 to 85+ dBA during aircraft take-off and landing events. Maintenance activities at these wells would occur once a week and would need to coincide with a take-off or landing event for the noise exposure to occur; therefore, workers would be infrequently exposed to aircraft noise. In addition, the City would be required to comply with California Occupational Safety and Health Administration regulations related to worker exposure to noise. Section 5096 of these regulations sets duration-based noise exposure limits for employees that require provision of personal protective equipment should exposure exceed the specified limits. These regulations would reduce employee exposure to high noise levels such that operational activities would not expose employees to excessive noise levels. Furthermore, staff completing outdoor operations and maintenance activities at the well locations would have the option of seeking a quieter noise environment inside the SSLOCSD WWTP building or their vehicles during aircraft take-off and landing events, if desired. Therefore, project operations would not expose people working in the project area to excessive noise levels, and operational impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact HAZ-5 PROJECT CONSTRUCTION WOULD HAVE THE POTENTIAL TO INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EVACUATION PLAN; THEREFORE, IMPLEMENTATION OF MITIGATION MEASURE T-1 WOULD BE REQUIRED. AS A RESULT, IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction activities associated with the injection, monitoring, and production wells; and ATF complex would occur on public and private properties and are unlikely to obstruct or alter emergency access routes. The project would involve construction of water distribution and agricultural irrigation pipelines within public roadway rights-of-way, which could temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or during emergency evacuations. As a result, impacts would be potentially significant. As discussed in Section 4.11, *Transportation,* implementation of Mitigation Measure T-1, which includes the development and implementation of a Transportation Management Plan, would be required. This plan would outline temporary detour routes and alternative emergency access routes during project construction. Mitigation Measure T-1 also includes coordination with emergency services and minimization of the duration of disruptions/closures to roadways and critical access points for emergency services. Therefore, construction impacts to emergency access and emergency response plans would be less than significant with mitigation incorporated.

During project operation, the project would not obstruct emergency access or impede emergency evacuation routes. Therefore, operational impacts would be less than significant.

Mitigation Measure

Implementation of Mitigation Measure T-1, as described in Section 4.11, *Transportation*, would be required.

Significance After Mitigation

Implementation of Mitigation Measure T-1 would reduce the potential for project construction to interfere with an adopted emergency response plan or evacuation plan by outlining temporary detour routes and alternative emergency access routes. Therefore, impacts would be less than significant with mitigation incorporated.

Threshold:	Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Impact HAZ-6 THE PROJECT WOULD NOT EXPOSE PEOPLE OR STRUCTURES TO SIGNIFICANT RISK OF LOSS, INJURY, OR DEATH INVOLVING WILDLAND FIRES. NO IMPACT WOULD OCCUR.

As shown in Figure 4.7-1 in Section 4.6.1(d), *Wildfires*, the closest VHFHSZ to the project area in the Pismo Beach Local Responsibility Area is on the north side of Pismo Beach, and the closest VHFHSZs to the project area in the State Responsibility Area are located north of Pismo Beach and east of Arroyo Grande (CAL FIRE 2009). Project components would be constructed in Grover Beach and Oceano, neither of which are within nor near a VHFHSZ. Although Oceano is in a State Responsibility Area, project components would not be located in an area of high or very high fire hazard.

In general, the project area is not at elevated risk for wildfire, and project components would be located a minimum of 1.3 miles south of the nearest VHFHSZ. As discussed in Section 4.12, *Effects Found Not to Be Significant*, the project would not permanently exacerbate any wildfire-related risks. Therefore, the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Impacts would be less than significant.

Mitigation Measure

No mitigation is required.

c. Cumulative Impacts

The geographic scope of potential cumulative impacts associated with hazards and hazardous materials encompasses the project area and immediate vicinity. This geographic scope is appropriate for hazardous materials because risks associated with hazards and hazardous materials occur largely in a site-specific and localized context as adverse impacts from a hazardous materials release or spill diminish in magnitude with distance. As shown in Table 3-1 in Section 3, *Environmental Setting*, only six of the identified cumulative projects (numbers 38, 43, 52, 53, and 54 in Grover Beach and the SSLOCSD Wastewater Treatment Redundancy Project [number 90]) would be industrial in nature. The SSLOCSD Wastewater Treatment Redundancy Project would potentially require the use of hazardous materials for treatment processes. In addition, depending on the types of industrial activities that occupy the cumulative project sites in Grover Beach, these uses may involve the handling and/or storage of hazardous materials. The remaining cumulative projects within proximity to the project area are unlikely to include facilities that use, store, dispose of, or transport hazardous materials frequently or in large quantities. Similar to the proposed project, these cumulative projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment at construction sites and the inadvertent mobilization of existing hazardous contaminants from construction activities, effects are generally limited to site-specific conditions. Therefore, there would be no cumulative impact related to accidental release of hazardous materials.

The geographic scope for cumulative impacts related to hazardous waste sites is limited to the project area and immediate vicinity. This geographic scope is appropriate for hazardous waste sites because risks associated with hazardous waste sites occur largely in a site-specific and localized context as adverse impacts from hazardous waste sites diminish in magnitude with distance. Overall, hazards and hazardous materials impacts associated with individual hazardous waste sites are site-specific in nature and must be addressed on a case-by-case basis. Since hazardous waste sites are required to be examined as part of the environmental review process, potential impacts associated with the interaction of individual projects with specific sites will be adequately addressed prior to approval. In addition, the project would result in no project-specific impact related to hazardous waste sites; therefore, no cumulative impact would occur.

The geographic scope for cumulative impacts to emergency response plans and emergency access extends to regional roadways that could be affected by construction-related traffic. The cumulative projects listed in Table 3-1 are dispersed throughout the project area. These projects would occur primarily on private properties and would not block roads. Therefore, no cumulative impact related to emergency response plans and emergency access would occur.

The geographic scope for cumulative impacts related to airports hazards is the area covered by the airport land use plan, which represents the area that the San Luis Obispo County Airport Land Use Commission determined has the potential to be adversely impacted by airport operations. Any cumulative development projects taking place within this area would be required to undergo review for consistency with the airport land use plan, which includes safety and noise analyses. In addition, projects located in unincorporated San Luis Obispo County would be required to comply with the provisions of the Airport Review Area combining designation, which is intended to address cumulative impacts of siting development near the Oceano County Airport. Since these hazards are required to be examined as part of the environmental review process, potential impacts associated with individual projects will be adequately addressed prior to approval. Therefore, no significant cumulative impacts related to airport hazards would occur.

The geographic scope for cumulative impacts related to wildfire hazards is the project area and immediate vicinity. This geographic scope is appropriate for wildfire hazards because the project area is largely developed such that any wildfire hazards would have a low likelihood of spreading to other regional locations. The project would not be located in an area designated as very high risk for wildfires and is not anticipated to exacerbate the risk of wildfire. As shown in Figure 3-1 in Section 3, *Environmental Setting*, cumulative projects would not be located in a VHFHSZ and are not anticipated to exacerbate the risk of wildfire or be built in areas with very high fire risk. No significant cumulative impact related to wildfires would occur.

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4.8 Hydrology/Water Quality

This section describes existing conditions and regulatory setting for hydrology and water quality in the project area and assesses potential impacts on hydrology and water quality that could result from implementation of the proposed project. The study area for the analysis of hydrology and water quality is the NCMA portion of the Pismo Creek and Arroyo Grande Creek Watersheds. This analysis is based in part on the *Reverse Osmosis (RO) Concentrate Sampling Plan Results* prepared by Carollo Engineers (2019) and the *Hydrogeologic Evaluation* prepared by GEOSCIENCE Support Services (GEOSCIENCE; 2018) for the project. These reports are included as Appendices B and G, respectively. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.8.1 Setting

a. Surface Waters

The study area extends across two watersheds of the South County sub-region: Pismo Creek Watershed (No. 8) and Arroyo Grande Creek Watershed (No. 9). The Pismo Creek and Arroyo Grande Creek Watersheds are both located in the South Coast Water Planning Area (San Luis Obispo County Flood Control and Water Conservation District [SLOFC&WCD] 2014). The major surface water bodies in the Pismo Creek Watershed near the project area are Pismo Creek, Pismo Creek Estuary, Meadow Creek, and Oceano Lagoon, and the major surface water bodies in the Arroyo Grande Creek Watershed near the project area are Arroyo Grande Creek and Arroyo Grande Creek Estuary. The lower reaches of the watershed are located at relatively low elevation and have experienced associated flooding and to some extent seawater intrusion/sea level rise issues. Surface waters in the study area are shown in Figure 4.8-1 and discussed in detail below.

As shown in Figure 4.8-2, Pismo Creek flows to the Pacific Ocean and has three major tributary basins with its headwaters in the Santa Lucia Mountains. A fourth tributary, Cuevitas Creek, enters Pismo Creek from the west in lower Price Canyon. The Pismo Creek Watershed rises to a maximum elevation of approximately 2,800 feet above mean sea level (SLOFC&WCD 2014). Pismo Creek flows through relatively rugged terrain in a steep, incised channel, with small alluvial deposits appearing sporadically before it empties into the Pacific Ocean (City of Pismo Beach 2011). In its upper reaches, the Pismo Creek Watershed is dominated by agricultural land uses, including vineyards, ranches, and row crops. In its lower reaches, the urban core of Pismo Beach is located adjacent to the Pismo Creek Estuary (SLOFC&WCD 2014).

Meadow Creek consists of two natural drainage channels. The western branch of Meadow Creek, which flows through the study area and is the larger of the two branches, is located entirely on lands owned by the California Department of Parks and Recreation. Meadow Creek drains a small watershed area of approximately seven square miles and is dependent on this watershed for its seasonal flow. Natural runoff is rare in the summer and fall months. At several points along its course, Meadow Creek receives storm drain discharge from the City of Grover Beach's drainage system (City of Grover Beach 2014).

Figure 4.8-1 Surface Waters in the Project Area

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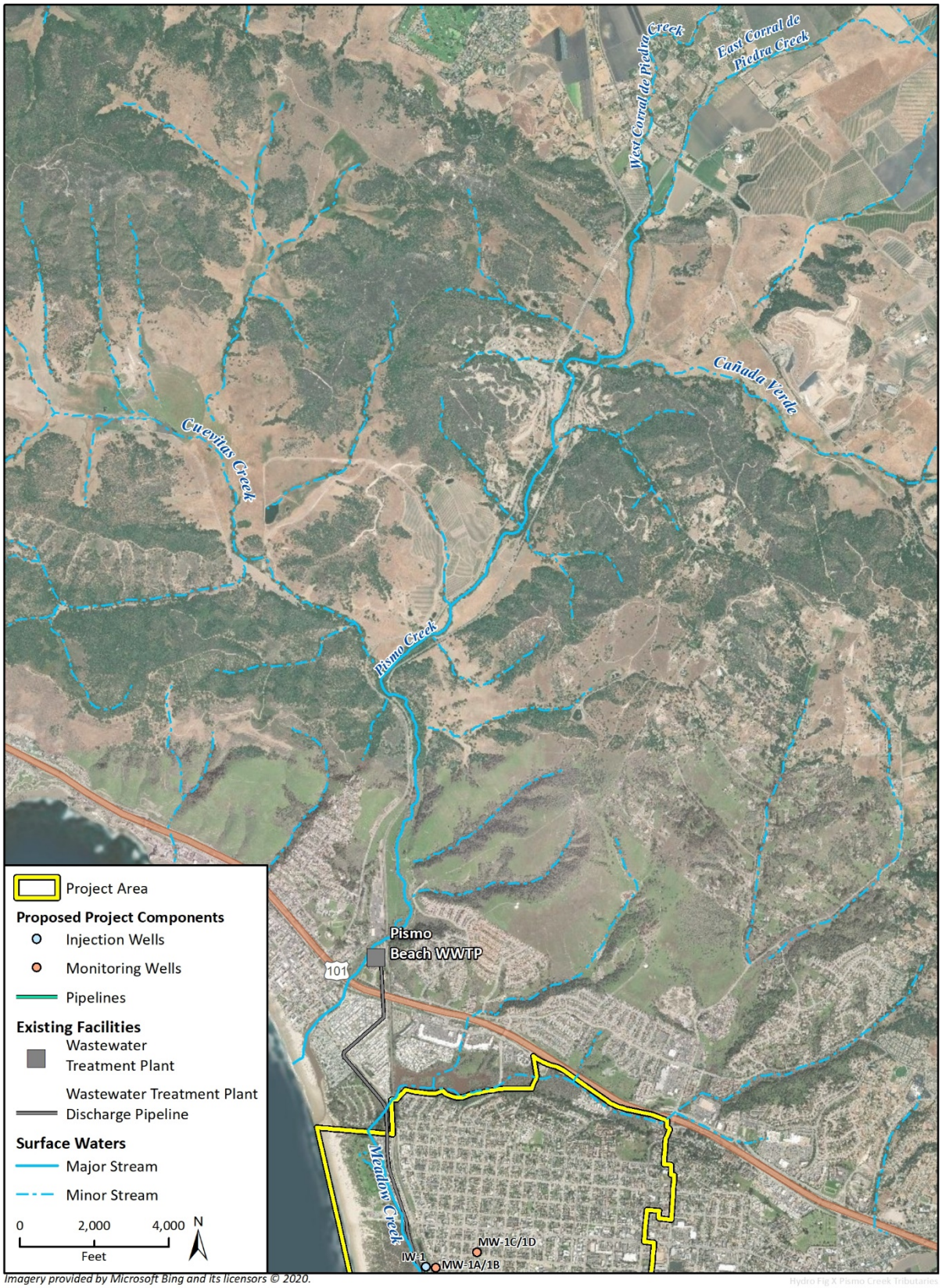
Additional data provided by U.S. Geological Survey, 2019.

Hydro Fig 4_8-2 Surface Waters

Figure 4.8-2 Pismo Creek Drainage



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Additional data provided by U.S. Geological Survey, 2019.

Hydro Fig X Pismo Creek Tributaries

Oceano Lagoon, located in the community of Oceano, serves as a natural settling basin for water flowing from Meadow Creek. From Oceano Lagoon, water either percolates into the underlying aquifer or flows into the mouth of Arroyo Grande Creek (City of Grover Beach 2014).

The Arroyo Grande Creek Watershed includes the tributaries of Tally Ho (Corbett), Tar Springs, and Los Berros Creeks. The Arroyo Grande Creek Watershed rises to a maximum elevation of approximately 3,100 feet above mean sea level and encompasses the SSLOCSD WWTP and the IW-5A and IW-5B locations. Meadow Creek, a remnant marsh drainage system in the Arroyo Grande Creek Watershed, is located along the Arroyo Grande Creek on the western side of the project area. Arroyo Grande Creek empties into an estuary located adjacent to Oceano Lagoon. Like the Pismo Creek Watershed, the Arroyo Grande Creek Watershed is dominated by agricultural land uses (SLOFC&WCD 2014).

State policy for water quality control in California is directed toward achieving the highest water quality consistent with maximum benefit to the people of the state. The Central Coast RWQCB Basin Plan identifies beneficial uses of surface water bodies within its jurisdiction. These beneficial uses serve as the basis for establishing WQOs and discharge prohibitions to protect water quality. Table 4.8-1 summarizes the beneficial uses of surface waters in the study area.

Table 4.8-1 Beneficial Uses for Surface Waters in Study Area

Water Body	Beneficial Uses
Pismo Creek	MUN, AGR, IND, GWR, REC1, REC2, WILD, COLD, WARM, MIGR, SPWN, BIOL, RARE, FRSH, COMM
Pismo Creek Estuary	GWR, REC1, REC2, WILD, COLD, MIGR, SPWN, BIOL, RARE, EST, COMM, SHELL
Arroyo Grande Creek[1]	MUN, AGR, IND, GWR, REC1, REC2, WILD, COLD, WARM, MIGR, RARE, FRSH, COMM
Arroyo Grande Creek Estuary	GWR, REC1, REC2, WILD, COLD, MIGR, SPWN, BIOL, RARE, EST, COMM, SHELL
Oceano Lagoon	REC1, REC2, WILD, WARM, BIOL, RARE, COMM
Meadow Creek	MUN, AGR, GWR, REC1, REC2, WILD, COLD, BIOL, RARE, COMM

MUN = Municipal and Domestic Supply; AGR = Agricultural Supply; IND = Industrial Service Supply; GWR = Groundwater Recharge; REC1 = Water Contact Recreation; REC2 = Non-Contact Water Recreation; WILD = Wildlife Habitat; COLD = Cold Fresh Water Habitat; WARM = Warm Fresh Water Habitat; MIGR = Migration of Aquatic Organisms; SPWN = Spawning, Reproduction, and/or Early Development; BIOL = Preservation of Biological Habitats of Special Significance; RARE = Rare, Threatened, or Endangered Species; FRSH = Fresh Water Replenishment; COMM = Commercial and Sport Fishing; EST = Estuarine Habitat; SHELL = Shellfish Harvesting

[1] Refers to the segment of Arroyo Grande Creek located downstream from Lopez Reservoir

Source: Central Coast Regional Water Quality Control Board 2019a

WQOs are the limits or levels of pollutant constituents or the characteristics of a water body that are established by the Central Coast RWQCB for the reasonable protection of beneficial uses of water. WQOs are numeric limits and narrative objectives designed to ensure that bodies of water in the state can support their designated beneficial uses. At concentrations equal to or greater than the numeric objectives, constituents (or pollutants) are considered to have impaired the beneficial uses of the state's water. In some cases, objectives are narrative (qualitative), rather than numerical. The Central Coast RWQCB Basin Plan provides specific WQOs for potential releases of pollutants into county surface waters.

In the study area, stormwater runoff transports pollutants from residential streets, parking lots and other sources to creeks, rivers, estuaries, and the Pacific Ocean. Natural flow from headwaters located inland also contribute stormwater runoff with elevated concentrations of pesticides and nutrients from agricultural activities upstream. Activities such as land clearing, excavation and filling, illegal dumping, municipal operations, improper disposal of pet waste, and use of fertilizers, pesticides and herbicides can generate stormwater pollution. Water quality concerns resulting from stormwater pollution include suspended sediment, nutrients, pathogens, nitrates, chlorides, sodium, heavy metals, polychlorinated biphenyls, and low dissolved oxygen levels (City of Pismo Beach 2011).

Both Pismo Creek and Arroyo Grande Creek are listed on the SWRCB CWA Section 303(d) list of impaired water bodies requiring development of Total Maximum Daily Loads. A Total Maximum Daily Load is a written plan that describes how an impaired water body will meet water quality standards. Pismo Creek is listed for chloride, *Escherichia coli*, fecal coliform, low dissolved oxygen, and sodium. Arroyo Grande Creek is listed for *Escherichia coli*, fecal coliform, chloride, nitrate, and sodium (SLOFC&WCD 2014).

b. Groundwater

The proposed project overlies the SMGB. There are two boundaries currently in use for this groundwater basin: one defined by the California Department of Water Resources and one defined by the Superior Court of California for use in basin adjudication. As defined by the California Department of Water Resources, the SMGB (Basin No. 3-012) encompasses approximately 184,000 acres in the coastal portion of northern Santa Barbara and southern San Luis Obispo counties. The SMGB consists of the following three subbasins: Pismo Creek Valley (1,220 acres), Arroyo Grande Valley (3,860 acres), and Nipomo Valley (6,230 acres). These subbasins are separated from the main basin by the Wilmar Avenue fault (SLOFC&WCD 2014).

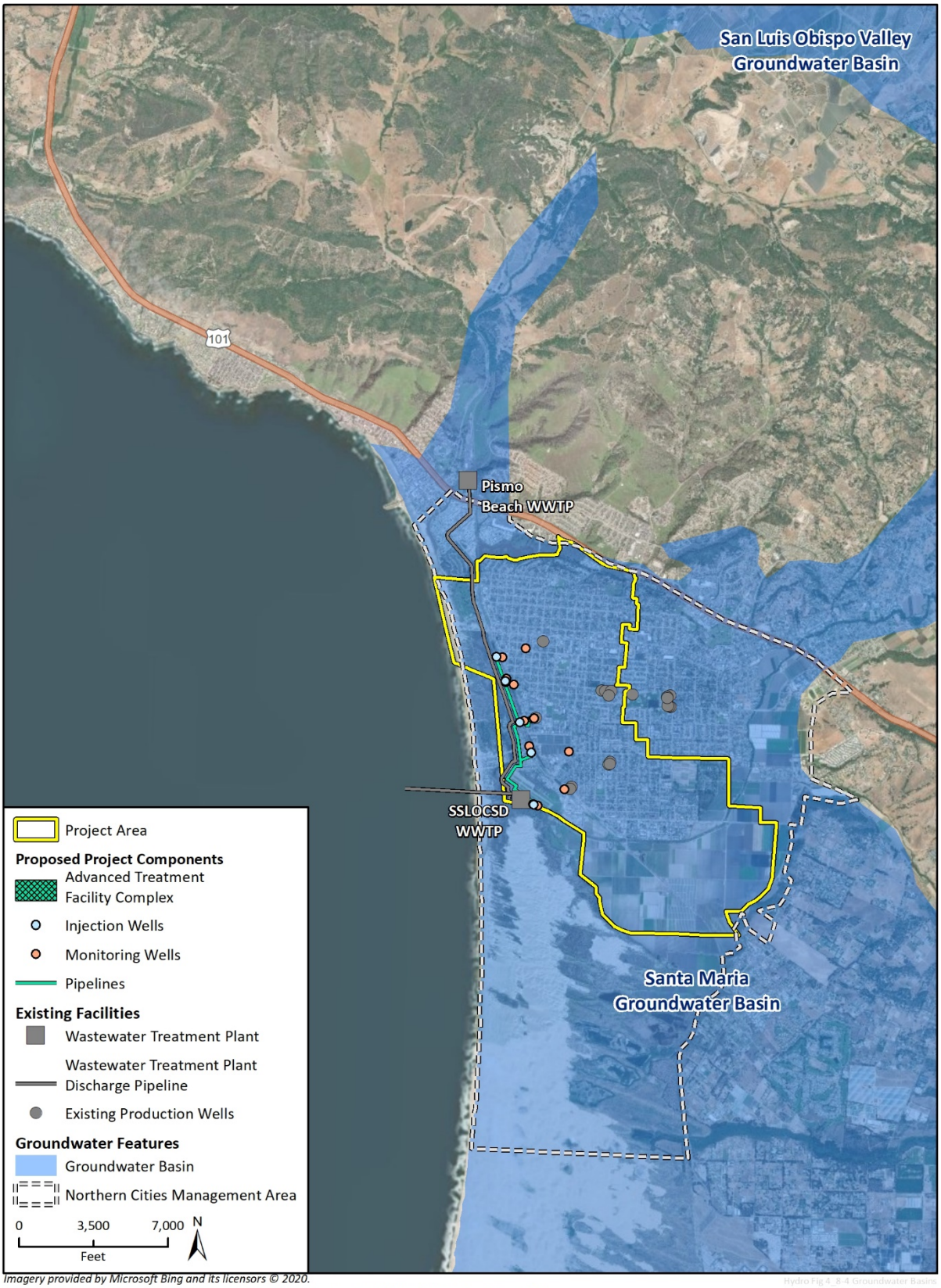
Beginning in the late 1990s, groundwater pumping rights in the SMGB were contested in court. The physical solution set forth in the Superior Court of California's 2005 Stipulation and 2008 final order ("Adjudication Judgment") established requirements and goals for the management of the entire SMGB. The Court defined three separate basin management areas: the NCMA, the Nipomo Mesa Management Area, and the Santa Maria Valley Management Area. The project area is located in the NCMA, which consists of the northwest portion of the SMGB (NCMA Technical Group 2019). Figure 4.8-3 shows the project area, underlying groundwater basin, and NCMA.

The Adjudication Judgment established a groundwater safe yield of 9,500 AFY for the NCMA portion of the SMGB. It provides allotments of 5,300 AFY for agricultural irrigation, 4,000 AFY for urban use, and 200 AFY for subsurface outflow to the ocean (NCMA Technical Group 2019).

In the NCMA, water supply aquifers are within alluvial deposits of the Paso Robles Formation, the Careaga Formation, and the Pismo Formation. Recharge to the NCMA comes primarily from:

- Seepage from Arroyo Grande Creek, including releases from Lopez Reservoir
- Deep percolation of precipitation, including stormwater infiltration basins
- Subsurface inflow from the Nipomo Mesa with underflow from Pismo Creek, Meadow Creek, Arroyo Grande Creek, and Los Berros Creek alluvium
- Residential and agricultural return flows (SLOFC&WCD 2014)

Figure 4.8-3 Groundwater Basins



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Additional data provided by California Department of Water Resources and Water Systems Consulting, 2019.

Hydro Fig 4_8-4 Groundwater Basins

Water availability in the NCMA is constrained by water rights and water quality issues. As discussed in Section 2, *Project Description*, elevated freshwater levels along the coastline and natural outflow to the ocean have historically prevented seawater from intruding into the groundwater basin. However, groundwater elevations along the coastline have dropped due to changing climatic conditions, including more frequent periods of extended drought resulting in reduced inflow into the groundwater basin, and increased demands on groundwater supplies resulting in a higher rate of groundwater extraction. These lower groundwater levels decrease the flow of freshwater out toward the ocean, which reduces the effectiveness of groundwater as a barrier to seawater. From 2007 to 2009, groundwater production in the SMGB peaked in comparison to the previous 30 years, contributing to a seawater intrusion event in the coastal wells in 2009. From 2011 to 2016, a period during which annual precipitation levels were consistently lower than average, groundwater elevations exhibited a steady decline to near or below sea level (NCMA Technical Group 2019). The primary constituents of concern in groundwater in the project area, as well as the basin as a whole, are total dissolved solids including nitrates, which are primarily associated with agricultural activities. Some groundwater wells in the NCMA have produced groundwater exceeding the State drinking water standard for nitrate (SLOFC&WCD 2014).

c. Marine and Coastal Waters

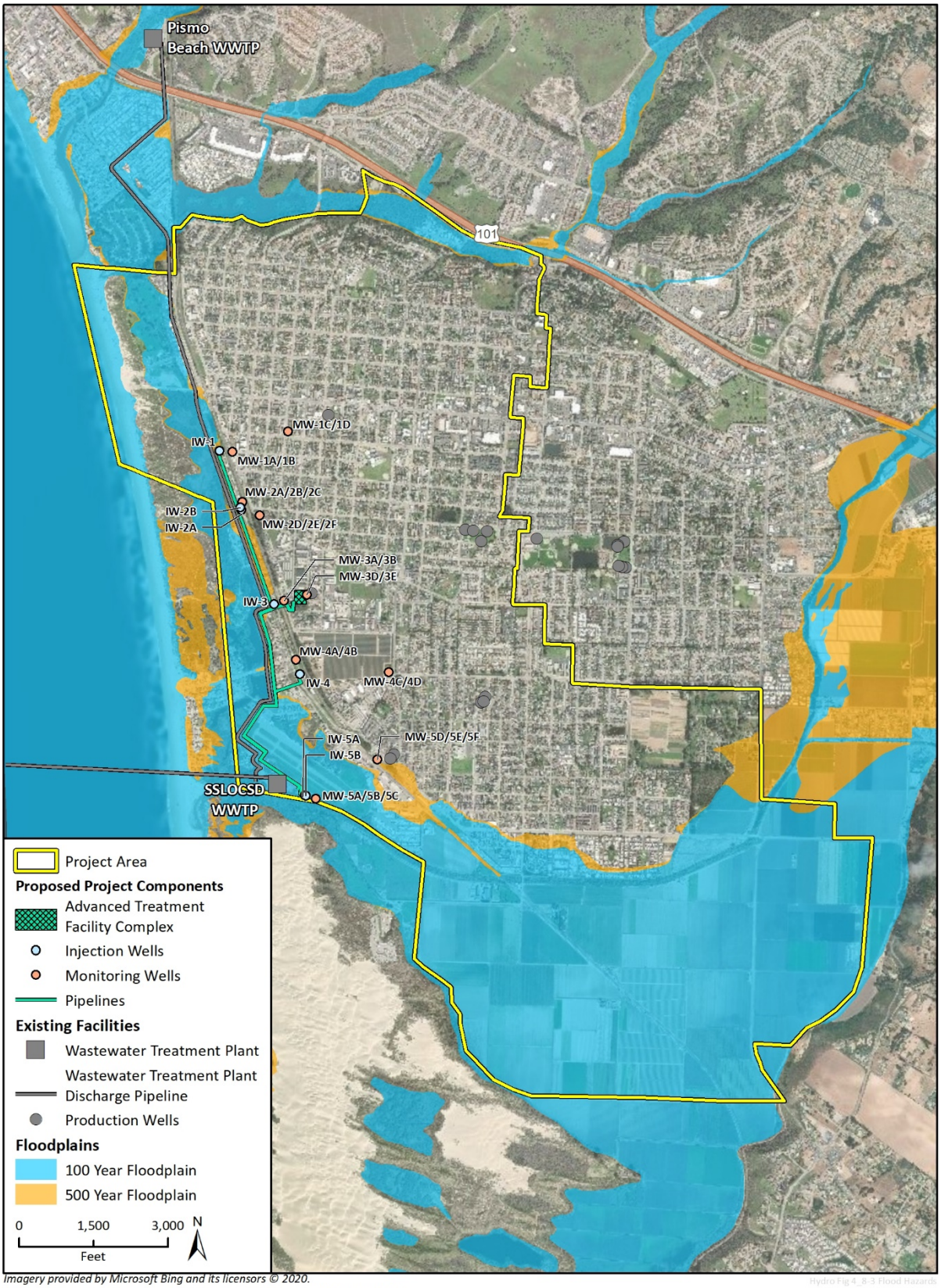
The NCMA is situated on the coastline of the Pacific Ocean. The Pismo Beach and SSLOCSD WWTPs are both permitted to discharge disinfected secondary treated wastewater to the Pacific Ocean via the Pismo Beach and SSLOCSD WWTPs' existing ocean outfall/diffuser system. The Pismo Beach and SSLOCSD ocean outfall extends approximately 4,400 feet from the SSLOCSD WWTP into the ocean and terminates at a depth of approximately 55 feet. The design of the outfall is intended to diffuse the treated effluent prior to discharge, creating a minimum initial dilution of 165 parts seawater to 1 part treated effluent at the point of release.

The Pismo Beach WWTP currently treats and discharges an average of 0.9 mgd and is permitted to discharge up to 1.9 mgd to the Pacific Ocean via the existing ocean outfall under its existing NPDES Permit No. CA0048151 (Order No. R3-2015-0016). The SSLOCSD WWTP currently treats and discharges approximately 2.4 mgd and is permitted to discharge up to 5.0 mgd to the Pacific Ocean via the ocean outfall under its existing NPDES Permit No. CA0048003 (Order No. R3-2019-0002). Effluent from the Pismo Beach WWTP and SSLOCSD WWTP combine prior to discharge via the outfall.

d. Flood Hazards

There are several flood-prone areas in the NCMA, which are generally located in low-lying areas near creeks and the coast. For the purposes of this analysis, "flood hazard areas" include the 100-year floodplain and the 500-year floodplain. The terms "100-year flood" and "500-year flood" describe flood recurrence intervals in which a flood of that magnitude has a one percent or 0.2 percent chance of occurring in any given year, respectively. The 100-year floodplain extends from the Pismo Creek Estuary southward along Meadow Creek to Oceano Lagoon. The 100-year floodplain also extends inland from the Pacific Ocean at the outlet of Arroyo Grande Creek. As shown in Figure 4.8-4, the existing Pismo Beach WWTP, SSLOCSD WWTP, and WWTP discharge pipeline are located within the 100-year floodplain. The existing production wells are not located within a flood hazard area.

Figure 4.8-4 Flood Hazard Zones



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Additional data provided by the Federal Emergency Management Agency, 2018.

Hydro Fig 4_8-3 Flood Hazards

The proposed ATF complex would be located outside of any identified flood hazard areas. Most of the proposed water distribution pipelines and injection wells would be located within the 100-year floodplain with the exception of IW-3, which would be located in the 500-year floodplain, and IW-4, which would be located outside of a flood hazard zone. Most monitoring wells would be located outside of flood hazard areas with the exception of MW-5A/5B/5C, which would be located in the 100-year floodplain. The precise locations of the potential agricultural irrigation pipelines are yet to be determined, but because they would proceed from the ATF complex in Grover Beach to agricultural lands south of Oceano, a portion of these pipelines would be located in the 100-year floodplain encompassing the southern portion of Oceano and those agricultural lands. The new production well would be located in Grover Beach east of SR 1; therefore, it would be located outside of any identified flood hazard areas.

e. Regulatory Setting

Federal

Clean Water Act

The federal CWA, enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the United States. The CWA established the basic structure for regulating discharges of pollutants into the waters of the United States (waters of the U.S.) and forms the basis for several state and local laws throughout the country. The CWA gave USEPA the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the CWA is administered by the USEPA and USACE. At the state and regional levels in California, the CWA is administered and enforced by the California SWRCB and the nine RWQCBs.

Clean Water Act Section 303(d): List of Impaired Water Bodies

Section 303(d) of the CWA requires states to identify water bodies that do not meet WQOs and are not supporting their beneficial uses. Each state must submit an updated biennial list, called the 303(d) list, to the USEPA. In addition to identifying the water bodies that are not supporting beneficial uses, the list also identifies the pollutant or stressor causing impairment and establishes a priority for developing a control plan to address the impairment. If a water body is designated as "impaired," then a Total Maximum Daily Load is developed and identified for the affected water body. A Total Maximum Daily Load establishes the maximum daily amount of a pollutant allowed in an identified water body and is used as a planning tool in addressing water quality impairments and improving water quality.

Clean Water Act Section 404

Under Section 404 of the CWA, proposed discharges of dredged or fill material into waters of the U.S. require USACE authorization. Waters of the U.S. generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands (with the exception of isolated wetlands). The USACE identifies wetlands using a multi-parameter approach, which requires positive wetland indicators in three distinct environmental categories: hydrology, soils, and vegetation. According to the USACE (1987) Wetlands Delineation Manual, except in certain situations, all three

parameters must be satisfied for an area to be considered a jurisdictional wetland. When an application for a Section 404 permit is made, the applicant must show it has:

- Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;
- Minimized unavoidable impacts on waters of the U.S. and wetlands; and
- Provided mitigation for unavoidable impacts.

State

Clean Water Act Section 401

Under Section 401 of the CWA, the State RWQCBs have regulatory authority over actions in waters of the U.S. and the State of California through the issuance of water quality certifications, which are issued in conjunction with any federal permit (i.e., the federal permit will not be issued unless and until the State issues the required water quality certification). Some of the major federal licenses and permits subject to Section 401 include CWA Section 402 (described below) and CWA Section 404 (described above) permits issued by the USACE. Section 401 of the CWA provides the SWRCB (and the RWQCBs) with the regulatory authority to waive, certify, or deny any proposed activity that could result in a discharge to surface waters. To waive or certify an activity, these agencies must determine that the proposed discharge would comply with State water quality standards, including those protecting beneficial uses and water quality, as defined in the applicable Water Quality Control Plan(s) (described below, under *Porter-Cologne Water Quality Control Act*). If these agencies deny the proposed activity, the federal permit cannot be issued. This water quality certification is generally required for projects involving the discharge of dredge or fill material to wetlands or other bodies. Jurisdictional streambeds and associated riparian habitat are also regulated by the California Department of Fish and Wildlife under Section 1602 of the California Fish and Game Code.

Clean Water Act Section 402: National Pollutant Discharge Elimination System

In 1987, amendments to the CWA added Section 402, which established a framework to protect water quality by regulating industrial, municipal, and construction-related sources of pollutant discharges to waters. In California, the NPDES program is administered by the SWRCB through the RWQCBs, and requires municipalities to obtain permits outlining programs and activities to control wastewater and stormwater pollution.

The CWA prohibits discharges of stormwater from construction projects unless the discharge is in compliance with an NPDES permit. The SWRCB, which is the permitting authority in California, adopted an NPDES *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (*Construction General Permit*) (Order 2009-0009, as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). Compliance with the *Construction General Permit* is required for projects that result in more than one acre of ground disturbance, including through clearing, grading, grubbing, excavating, stockpiling, and removing or replacing existing facilities. The *Construction General Permit* requires the landowner and/or contractor to file permit registration documents prior to commencing construction and pay a fee annually throughout the duration of construction. These documents include a notice of intent, risk assessment, site map, stormwater pollution prevention plan (SWPPP), and signed certification statement. The *Construction General Permit* specifies minimum BMP requirements for stormwater control based on the risk level of the site. The SWPPP must include measures to ensure the following:

- All pollutants and their sources are controlled;
- Non-stormwater discharges are identified and eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges; and
- BMPs installed to reduce or eliminate pollutants post-construction are completed and maintained.

The proposed project would be subject to the NPDES *Construction General Permit* and would require development and implementation of a SWPPP for project construction. In addition, the project would also be subject to the existing NPDES permits for well backflush (NPDES No. CAG993002, Order No. R3-2016-0035), discharge to the Pacific Ocean from the Pismo Beach WWTP (NPDES No. CA0048151, Order No. R3-2015-0016), and discharge to the Pacific Ocean from the SSLOCSD WWTP (NPDES No. CA0048003, Order No. R3-2019-0002).

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) is the primary statute covering the quality of waters in California. Under Porter-Cologne, the SWRCB has the ultimate authority over the State's water quality policy. The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the nine RWQCBs conduct planning, permitting, and enforcement activities. The RWQCBs also regulate water quality under Porter-Cologne through the regulatory standards and objectives set forth in Water Quality Control Plans (also referred to as Basin Plans) prepared for each region.

The project area is located in the jurisdiction of the Central Coast RWQCB. The Water Quality Control Plan for the Central Coastal Basin (Basin Plan; Central Coast RWQCB 2019a) identifies existing and potential beneficial surface and groundwater uses in the region, as well as WQOs. The Basin Plan provides water quality criteria for the various beneficial uses (previously identified in Table 4.8-1 under Section 4.8.1(a), *Surface Waters*).

California Safe Drinking Water Act

The USEPA has delegated the responsibility for administering California's drinking-water program to the California Department of Public Health. In 1976, California adopted its own Safe Drinking Water Act (contained in the Health and Safety Code) and adopted implementing regulations (contained in Title 22 of the California Code of Regulations). California's program sets drinking water standards that are at least as stringent as the USEPA standards. Each community water system also must monitor for a specified list of contaminants, and the monitoring results must be reported to the State. In July 2014, responsibility for the State's Drinking Water Program was transferred from the Department of Public Health to the Division of Drinking Water, which is a division of the SWRCB.

California Ocean Plan

The Ocean Plan is one of five statewide water quality control plans established by the SWRCB (2019) to preserve and enhance California's territorial ocean waters for the use and enjoyment of the public. The Ocean Plan provides control for the discharge of waste to ocean waters and ensures the protection of beneficial uses of ocean waters. Discharge of waste can include stormwater runoff, municipally-treated sewage outflow, and other discharges by industry under RWQCB and SWRCB permits. The Ocean Plan sets forth WQOs for protection of marine aquatic life as well as objectives for bacterial, physical, chemical, and biological characteristics for ocean waters.

The Ocean Plan is reviewed every three years to guarantee its WQOs are adequate to prevent degradation of marine species and protect public health. The Ocean Plan was first adopted by the SWRCB on July 6, 1972 and has been amended five times since it was last reviewed in 2011. The most recent amendment to the Ocean Plan was in 2019 to incorporate revised statewide bacteria water quality objectives and implementation options to protect recreational users from the effects of pathogens (SWRCB 2019).

The WQOs in the Ocean Plan are applicable to all point source discharges to the ocean, including effluent from the Pismo Beach and SSLOCSD WWTPs. The effluent limits are imposed such that the Ocean Plan WQOs are not exceeded in the receiving water upon completion of initial dilution. If a conflict exists between the Ocean Plan WQOs and the NPDES permit effluent limits, the more stringent provision apply.

Policy for Water Quality Control for Recycled Water (Recycled Water Policy)

The purpose of the Recycled Water Policy (SWRCB 2018) is to increase the use of recycled water from municipal wastewater sources meeting the definition in California Water Code Section 13050(n) in a manner that implements state and federal water quality laws. The Recycled Water Policy provides goals for recycled water use in California, guidance for use of recycled water that considers protection of water quality, criteria for streamlined permitting of recycled water projects, and requirements for monitoring recycled water for constituents of emerging concern.

The Recycled Water Policy was adopted in 2009, amended in 2013, and amended again in 2018. The 2018 amendment included the following:

1. Removal of statewide recycled water mandates
2. Addition of narrative goals for the production and use of recycled water
3. Establishment of treated wastewater and recycled water reporting requirements statewide
4. Clarification of the process for recycled water project proponents to comply with California Water Code Section 1211 for wastewater change petitions
5. Updates to requirements for salt and nutrient management planning
6. Improvement of consistency in permitting of recycled water projects by encouraging the use of statewide water reclamation requirements for non-potable recycled water use, removing streamlined permitting criteria for landscape irrigation recycled water projects, and adding permitting guidance for reservoir augmentation projects
7. Updates to monitoring requirements for constituents of emerging concern in recycled water used for groundwater recharge and reservoir water augmentation
8. Incorporation of other substantive and non-substantive changes

California Code of Regulations Water Recycling Criteria

California Code of Regulations Title 22, Division 4, *Environmental Health*, Chapters 1 through 3 outline California's health laws related to recycled water. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. The regulations establish acceptable levels of constituents in recycled water for a range of uses and assurance of reliability in the production of recycled water.

Indirect Potable Reuse: Groundwater Replenishment

Division 4, Chapter 3 of California Code of Regulations Title 22 addresses groundwater replenishment with recycled water. Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application* (i.e., 22 California Code of Regulations Sections 60320.200 through 60320.230) addresses Groundwater Replenishment Reuse Projects using subsurface application. This section includes stringent general provisions, specific treatment and retention time provisions, and monitoring requirements for Groundwater Replenishment Reuse Projects. The requirements also include built-in public health protections such as mandating the length of time during which recycled water must be retained underground such that the project sponsor has ample response time to identify treatment failures and implement actions and requiring project sponsors to have an approved plan describing the alternative source of potable water supply to all users.

Regional

Central Coast Post-Construction Stormwater Requirements

Central Coast RWQCB Resolution R3-2013-0032, adopted July 2013, approved post-construction stormwater management requirements for development projects in the Central Coast. The primary objective of these requirements is to ensure permittees are reducing pollutant discharges to the maximum extent practicable and preventing stormwater discharges from causing or contributing to a violation of receiving water quality standards in all applicable development projects requiring approvals and/or permits issued under the permittees' planning, building, or other comparable authority. The requirements emphasize protecting and, where degraded, restoring key watershed processes to create and sustain linkages between hydrology, channel geomorphology, and biological health necessary for healthy watersheds. Regulated projects include all new development or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surfaces. The project area is designated as Watershed Management Zone 1.

Local

NPDES Permit No. CA0048151 – Pismo Beach WWTP

The Central Coast RWQCB issues NPDES permits to individual agencies for operation of WWTPs. The Pismo Beach WWTP operates under Permit No. CA0048151 (Order No. R3-2015-0016). The NPDES permit provides effluent limitations to protect aquatic life and human health. Discharges of treated wastewater through the ocean outfall must meet the NPDES effluent limitations for technology-based and bacteriological pollutants as well as toxic pollutants that may be harmful to marine aquatic life.

Table 4.8-2 summarizes the NPDES permit effluent limitations for technology-based and bacteriological pollutants, and Table 4.8-3 summarizes the NPDES permit effluent limitations for protection of marine aquatic life. For radioactivity, the NPDES permit prohibits exceeding the limits specified in California Code of Regulations Title 22, Division 4, Chapter 15, Article 5, Section 64443, which includes maximum contamination limits for radionuclides.

Table 4.8-2 Effluent Limitations for Technology-Based and Bacteriological Pollutants – Pismo Beach

Parameter	Unit	Average Monthly	Average Weekly	Maximum Daily
pH	Standard units	6.0 to 9.0 at all times	6.0 to 9.0 at all times	6.0 to 9.0 at all times
Biological Oxygen Demand (5-day at 20°Celsius)	mg/L	30	45	90
Total Suspended Solids	mg/L	30	45	90
Oil and Grease	mg/L	25	40	75
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
Fecal Coliform Bacteria	MPN/100 mL	n/a	200[1]	2000

mg/L = milligrams per liter; mL/L = milliliters per liter; NTU = Nephelometric Turbidity Units; MPN/100 mL = Most Probable Number of viable cells in 100 milliliters of sample; n/a = not applicable

[1] Measured as the median of seven samples.

Source: NPDES Permit No. CA0048151

Table 4.8-3 Effluent Limitations for Protection of Marine Aquatic Life – Pismo Beach WWTP

Pollutant	6-Month Median Concentration (µg/L)	6-Month Median Mass Loading (lbs/day)	Maximum Daily Concentration (µg/L)	Maximum Daily Mass Loading (lbs/day)	Instantaneous Maximum Concentration (µg/L)	Instantaneous Maximum Mass Loading (lbs/day)
Cadmium	170	2.7	660	10	1,700	27
Chromium VI	330	5.2	1,300	21	3,300	52
Copper	170	2.7	1,700	27	4,700	74
Lead	330	5.2	1,300	21	3,300	52
Mercury	6.6	0.10	26	0.41	66	1.0
Nickel	830	13	3,300	52	8,300	130
Selenium	2,500	40	9,900	160	25,000	400
Silver	90	1.4	440	7.0	1,100	17
Cyanide	170	2.7	660	10	1,700	27
Total Chlorine Residual	330	5.2	1,300	21	9,900	160
Acute Toxicity[1]	n/a	n/a	5.3	n/a	n/a	n/a
Chronic Toxicity[1]	n/a	n/a	170	n/a	n/a	n/a
Phenolic Compounds (non-chlorinated)	5,000	79	20,000	320	50,000	790
Chlorinated Phenolics	170	2.7	660	10	1,700	27
Endosulfan	1.5	0.024	3.0	0.05	4.5	0.07
Endrin	0.33	0.005	0.66	0.011	1.0	0.016
HCH	0.66	0.010	1.3	0.021	2.0	0.032

µg/L = micrograms per liter; lbs/day = pounds per day; n/a = not applicable; HCH = hexachlorocyclohexane

[1] Units are in Toxic Units

Source: NPDES Permit No. CA0048151

NPDES Permit No. CA0048003 – SSLOCSD WWTP

The SSLOCSD WWTP operates under Permit No. CA0048003 (Order No. R3-2019-0002). Similar to the Pismo Beach WWTP's NPDES permit, the SSLOCSD WWTP's NPDES permit identifies effluent limitations and discharge specifications to protect aquatic life and human health. The permit authorizes the SSLOCSD WWTP to discharge into the Pacific Ocean, subject to the waste discharge requirements (WDRs) in the Order. Table 4.8-4 summarizes the NPDES permit effluent limitations for technology-based and bacteriological pollutants, and Table 4.8-5 summarizes the NPDES permit effluent limitations for protection of marine aquatic life.

Table 4.8-4 Effluent Limitations for Technology-Based and Bacteriological Pollutants – SSLOCSD WWTP

Parameter	Unit	Average Monthly	Average Weekly	Maximum Daily
pH	Standard units		6.0 to 9.0 at all times	
Biochemical Oxygen Demand (5-day at 20°Celsius)	mg/L	40	60	90
	lbs/day	1,668	2,502	3,753
Total Suspended Solids	mg/L	40	60	90
	lbs/day	1,668	2,502	3,753
Oil and Grease	mg/L	25	40	75
	lbs/day	1,042	1,668	3,127
Settleable Solids	mL/L	1.0	1.5	n/a
Turbidity	NTU	75	100	n/a
Fecal Coliform Bacteria	MPN/100 mL	n/a	200[1]	2000

mg/L = milligrams per liter; lbs/day = pounds per day; mL/L = milliliters per liter; n/a = not applicable; NTU = Nephelometric Turbidity Units; MPN/100 mL = Most Probable Number of viable cells in 100 milliliters of sample

[1] Measured as the median of seven samples.

Source: NPDES Permit No. CA0048003

Table 4.8-5 Effluent Limitations for Protection of Marine Aquatic Life – SSLOCSD WWTP

Pollutant	6-Month Median Concentration (µg/L)	6-Month Median Mass Loading (lbs/day)	Maximum Daily Concentration (µg/L)	Maximum Daily Mass Loading (lbs/day)	Instantaneous Maximum Concentration (µg/L)	Instantaneous Maximum Mass Loading (lbs/day)
Arsenic	830	35	4,820	201	12,790	533
Cadmium	170	6.9	660	28	1,660	69
Chromium VI	330	14	1,330	55	3,320	138
Mercury	656	0.27	2,648	1.1	6,632	2.8
Selenium	2,490	104	9,960	415	24,900	1,038
Silver	90	3.7	440	18	1,140	47
Cyanide	170	6.9	660	28	1,660	69
Total Chlorine Residual	330	14	1,330	55	9,960	415
Ammonia (as N)	99,600	4,153	398,400	16,613	996,000	41,533
Acute Toxicity[1]	n/a	n/a	5.25	n/a	n/a	n/a
Chronic Toxicity[1]	n/a	n/a	166	n/a	n/a	n/a
Phenolic Compounds (non-chlorinated)	4,980	208	19,920	831	49,800	2,177
Chlorinated Phenolics	170	6.9	660	28	1,660	69
Endosulfan	1.49	0.062	2.99	0.12	4.48	0.19
Endrin	0.33	0.014	0.66	0.028	1.0	0.042
HCH	0.66	0.028	1.33	0.055	1.99	0.083

µg/L = micrograms per liter; lbs/day = pounds per day; n/a = not applicable; HCH = hexachlorocyclohexane

1 Units are in Toxic Units

Source: NPDES Permit No. CA0048003

NPDES Permits for Small Municipal Separate Storm Sewer Systems

Polluted stormwater runoff is commonly transported through municipal separate storm sewer systems (and then discharged into local water bodies. To prevent harmful pollutants from being washed or dumped into municipal separate storm sewer systems, certain operators are required to obtain NPDES permits and develop stormwater management programs. The stormwater management program describes the stormwater control practices that will be implemented consistent with permit requirements to minimize the discharge of pollutants from the storm sewer system.

Within the project area, the City of Grover Beach was identified by the SWRCB as a small municipal separate storm sewer system requiring coverage under the NPDES *General Permit for Storm Water Discharges from Small MS4s* (Order No. 2003-0005-DWQ). As such, Grover Beach was required to develop a stormwater management program. The *Phase II Municipal General Permit* requires regulated small municipal separate storm sewer systems to develop and implement BMPs, measurable goals, and timetables for implementation in order to reduce the discharge of pollutants.

GROVER BEACH STORM WATER MANAGEMENT PROGRAM

In March 2010, the City of Grover Beach adopted its stormwater management program to comply with the requirements of the Storm Water Phase II Final Rule and to achieve the following conditions (City of Grover Beach 2010):

1. Maximize infiltration of clean stormwater, and minimize runoff volume and rate
2. Protect riparian areas, wetlands, and their buffer zones
3. Minimize pollutant loading
4. Provide long-term watershed protection

Stormwater control measures include public education and outreach, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post-construction stormwater management for new development and redevelopment, and pollution prevention for municipal operations (City of Grover Beach 2010).

City of Grover Beach and County of San Luis Obispo

Project components that would have the potential to impact hydrology and water quality are proposed to be located only in Grover Beach and unincorporated San Luis Obispo County. As such, local policies and regulations applicable to the project are limited to those established by the County of San Luis Obispo and the City of Grover Beach.

SAN LUIS OBISPO COUNTY CODE

Section 23.04.450 of the SLOCC contains stormwater regulations for development projects in the coastal zone that would create or replace at least 2,500 square feet of impervious surface. Section 23.04.450(c-d) requires applicants to submit a Stormwater Control Plan that demonstrates compliance with the *Central Coast Post-Construction Requirements* for site design, stormwater quality, runoff retention, and peak flow management. The County also includes additional site design requirements that must be incorporated into all projects. Section 23.04.450(e) includes source control standards for outdoor material storage, loading and unloading dock area, repair maintenance and bays, vehicle and equipment wash areas, and parking lots, among other sources. SLOCC Section 22.10.155 includes similar requirements for development projects located outside

the coastal zone, and SLOCC Section 19.11 contains similar requirements for projects throughout the county.

SLOCC Section 23.07.060-66 includes standards for development projects located in the Flood Hazard combining designation. Water supply and sanitary sewer systems must be designed to minimize infiltration of flood waters into the system and discharge from systems into flood waters.

SLOCC Section 23.07.174 specifies standards for development adjacent to coastal streams, which include minimum setbacks of 50 feet from riparian vegetation in urban areas. In addition, SLOCC Section 23.06.100 includes provisions to prevent polluted runoff from non-point sources from adversely impacting water quality.

SAN LUIS OBISPO COUNTY GENERAL PLAN

- **Goal BR 4.** The natural structure and function of streams and riparian habitat will be restored.
  - **Policy BR 4.2 Minimize Impacts from Development.** Minimize the impacts of public and private development on streams and associated riparian vegetation due to construction, grading, resource extraction, and development near streams. [This policy and the following implementation strategy do not apply 1) within the coastal zone, because the Local Coastal Program already includes detailed policies and standards to protect streams and riparian vegetation, and 2) on private lands designated Agriculture in the Land Use Element and on other lands used for production agriculture; for those lands, refer to Policy AGP 26 in the Agriculture Element.]
    - **Implementation Strategy BR 4.2.1 Setbacks from streams and riparian vegetation.** Set back development on public lands and all private development subject to discretionary review a minimum of 50 feet from the top of the bank of any stream or outside the dripline of riparian vegetation, whichever distance is greater, as shown in Figures BR-6 and BR-7. (Top of creek bank is the uppermost ground elevation paralleling a creek or watercourse where the gradient changes from a more defined vertical component to more horizontal.) Locate buildings and structures outside the setback; public trails may be located within this required setback only if trail design and construction avoid or mitigate environmental impacts. Provide for adjustments where alternatives are infeasible or more environmentally damaging but require a minimum 30-foot building setback consistent with the requirements of the Regional Water Quality Control Board's Basin Plan.
- **Goal WR 6.** Damage to life, structures, and natural resources from floods will be avoided.

GROVER BEACH MUNICIPAL CODE

Article VII of the GBMC pertains to Public Works. GBMC Article VII, Chapter 1 specifically pertains to the sanitary sewer and stormwater drainage systems. In addition, GBMC Article IX, Chapter 5.10 pertains to Flood Hazard Area Use Control. Chapter 5.10 contains provisions for flood hazard reduction, including standards of construction and standards for utilities. All new and replacement water supply and sanitary sewage systems are required to be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters. GBMC Chapter 5.50 provides standards for grading activities and construction of drainage control facilities, and GBMC Chapter 5.60 provides standards for stormwater management during construction and post-construction activities. These standards include requirements for retaining stormwater runoff on-site in Section 5.50.080(C).

GROVER BEACH LOCAL COASTAL PROGRAM

The City of Grover Beach's LCP was last revised in 2014. The following policies of the Grover Beach LCP related to hydrology and water quality are applicable to the proposed project:

- **Meadow Creek (Western Branch) Policy 5:** That there shall be a minimum of a 50-foot buffer, or other appropriate buffer established by a habitat restoration plan approved by the Department of Fish and Game, on both sides of the portion of Meadow Creek north of Grand Avenue. The purpose of this buffer is to protect and enhance the habitat values and filtration capabilities of Meadow Creek while recognizing that for most of its length north of Grand Avenue there is existing development on both sides of the creek.
- **General Policy 3:** The City shall preserve and protect:
    a. Wetland resources including creeks and other seasonal wetland areas in conformance with Coastal Act Sections 30233 and 30236; all adverse impacts to riparian resources from any allowable development within wetlands or streams shall be fully mitigated.

4.8.2 Impact Analysis

a. Methodology and Significance Thresholds

In accordance with Appendix G of the CEQA Guidelines, an impact related to hydrology and water quality would be significant if the proposed project would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or off-site
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
    - 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
    - Impede or redirect flood flows
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
Threshold:	Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact HWQ-1 THE PROJECT WOULD POTENTIALLY VIOLATE RADIOACTIVE TOXICITY STANDARDS FOR EFFLUENT DISCHARGE FROM THE EXISTING OCEAN OUTFALL. IMPLEMENTATION OF MITIGATION MEASURES HWQ-1 AND BIO-3(C) WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Surface Water Quality

Project construction activities that could affect surface water quality include ground disturbance, such as temporary site preparation and grading that may result in soil erosion and associated sedimentation. If precautions are not taken to contain contaminants, construction activities could result in contaminated stormwater runoff that could enter surface waters in the study area, including Meadow Creek, Oceano Lagoon, and Arroyo Grande Creek. The project includes agricultural irrigation pipelines that would proceed from the ATF complex to agricultural lands located generally south of Oceano, which would require crossing the Arroyo Grande Creek. Construction activities could also affect water quality in the event of an accidental fuel or hazardous materials leak or spill, unless such an event is immediately addressed. In addition, as discussed in Section 4.2, *Biological Resources*, there is potential for hydrogeological fractures (frac-out) to occur during the drilling process. Frac-out is when drilling fluids (composed primarily of water and bentonite clay) unintentionally return to the surface, which can happen if the drilled boring encounters a vertical underground fissure or void that allows drilling fluids to seep to the surface and enter the overlying water body. If this occurs, the release of contaminants into Arroyo Grande Creek could adversely affect surface water quality.

Construction of the proposed project would comply with all applicable federal, state, and local water quality standards and WDRs, including the SWRCB's NPDES *Construction General Permit* for resulting in more than one acre of ground disturbance. As such, the project would develop and implement a construction SWPPP with BMPs to prevent polluted runoff from leaving construction areas. BMPs may include but would not be limited to use of tarps on stockpiled soil, proper waste disposal procedures, sweeping of site debris, and periodic inspection of the site. The construction SWPPP and BMPs would be designed to prevent sedimentation of both on-site and off-site surface waters from construction activities; prevent leaking of pollutants such as oil, grease, and chemicals; and implement spill control and response measures in the case of accidental releases. The proposed project would comply with these permitting requirements to apply BMPs and adhere to permitting requirements in order to avoid potential impacts to water quality.

Agricultural irrigation pipelines between the ATF complex and agricultural lands south of Oceano would cross Arroyo Grande Creek, and construction activities could potentially impact surface water quality in the creek. Mitigation Measure BIO-3(c) requires implementation of construction BMPs in jurisdictional areas, which would include Arroyo Grande Creek. BMPs include erosion and sediment control measures, debris management, measures for handling hazardous materials near jurisdictional areas, and preparation and implementation of a Frac-Out Contingency Plan. With

mitigation, construction would not violate waste quality standards or WDRs or otherwise substantially degrade surface water quality. Impacts would be less than significant with mitigation incorporated.

Project operational activities that could affect surface water quality include routine well backflushing, which would comply with the existing NPDES No. CAG993002, Order No. R3-2016-0035, for backflushing activities. Other components of the project include water distribution pipelines that would be located underground and would therefore not result in changes to surface water quality during operation. The proposed ATF complex, located in Grover Beach, would occupy approximately 1.5 acres of land and would be subject to the *Central Coast Post-Construction Stormwater Requirements* (Central Coast RWQCB Order R3-2013-0032), which apply to development that includes more than 2,500 square feet of impervious surface area. Under Order R3-2013-0032, operation of the ATF complex would include implementation of BMPs to reduce pollutant discharges to the Maximum Extent Practicable and prevent stormwater discharges from causing or contributing to a violation of receiving water quality standards.

In addition, all project components would comply with local stormwater management programs and municipal code requirements governing stormwater runoff and the minimum control measures and BMPs contained therein. Compliance with the *Central Coast Post-Construction Stormwater Requirements* and applicable local regulations would include implementation of BMPs and design features to control stormwater runoff quality. Furthermore, secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs that would be used as source flows for the proposed project is currently discharged directly to the Pacific Ocean via the existing ocean outfall. As such, diversion of secondary treated effluent flows for the proposed project would not result in changes to the flows of Meadow Creek or Arroyo Grande Creek because secondary treated effluent is not currently discharged to those water bodies. Therefore, project operation would not violate waste quality standards or WDRs and would not otherwise substantially degrade surface water quality. Impacts would be less than significant.

The Basin Plan includes WQOs for surface waters related to beneficial uses (Central Coast RWQCB 2019a). Compliance with applicable regulations discussed above, including NPDES permits, and implementation of construction and operational BMPs would protect surface water quality and minimize the proposed project's potential impacts to beneficial uses of local surface waters. Therefore, the proposed project would not conflict with or obstruct implementation of the Basin Plan, and impacts would be less than significant.

The proposed project would not result in changes to operations at the Pismo Beach and SSLOCSD WWTPs, which would continue to be covered under Permit Nos. CA0048151 and CA0048003, respectively, for discharges of treated wastewater to the Pacific Ocean via the existing ocean outfall. However, the proposed project would change the concentrations of constituents in the wastewater effluent discharged to the Pacific Ocean, which is discussed further under *Marine Water Quality* below.

Marine Water Quality

The proposed project would alter the volume and quality of water discharged through the existing ocean outfall, resulting in an incrementally higher concentration (but not volume) of salinity and other constituents in the effluent. As discussed in Section 2, *Project Description*, the RO process at the ATF complex would remove dissolved solids, organic contaminants, sugars, salts, and sub-micron particles and pathogens, including viruses, bacteria, and protozoa, from the secondary treated wastewater influent. RO produces a clean water stream (permeate) and a waste water

stream (concentrate), which means that not all the water is recovered from this process as permeate water. A percentage of the water becomes concentrate (typically about 10 to 30 percent), which contains a higher concentration of the dissolved particles than the source water flow. This concentrate will ultimately be mixed with any remaining secondary effluent and discharged to the ocean through the existing ocean outfall that currently receives all the flow from the Pismo Beach and SSLOCSD WWTPs. Figure 4.8-5 shows the process by which RO concentrate would be produced and discharged. The concentrate from the RO process would be substantially less saline than ocean water or effluent discharge from ocean desalination facilities.

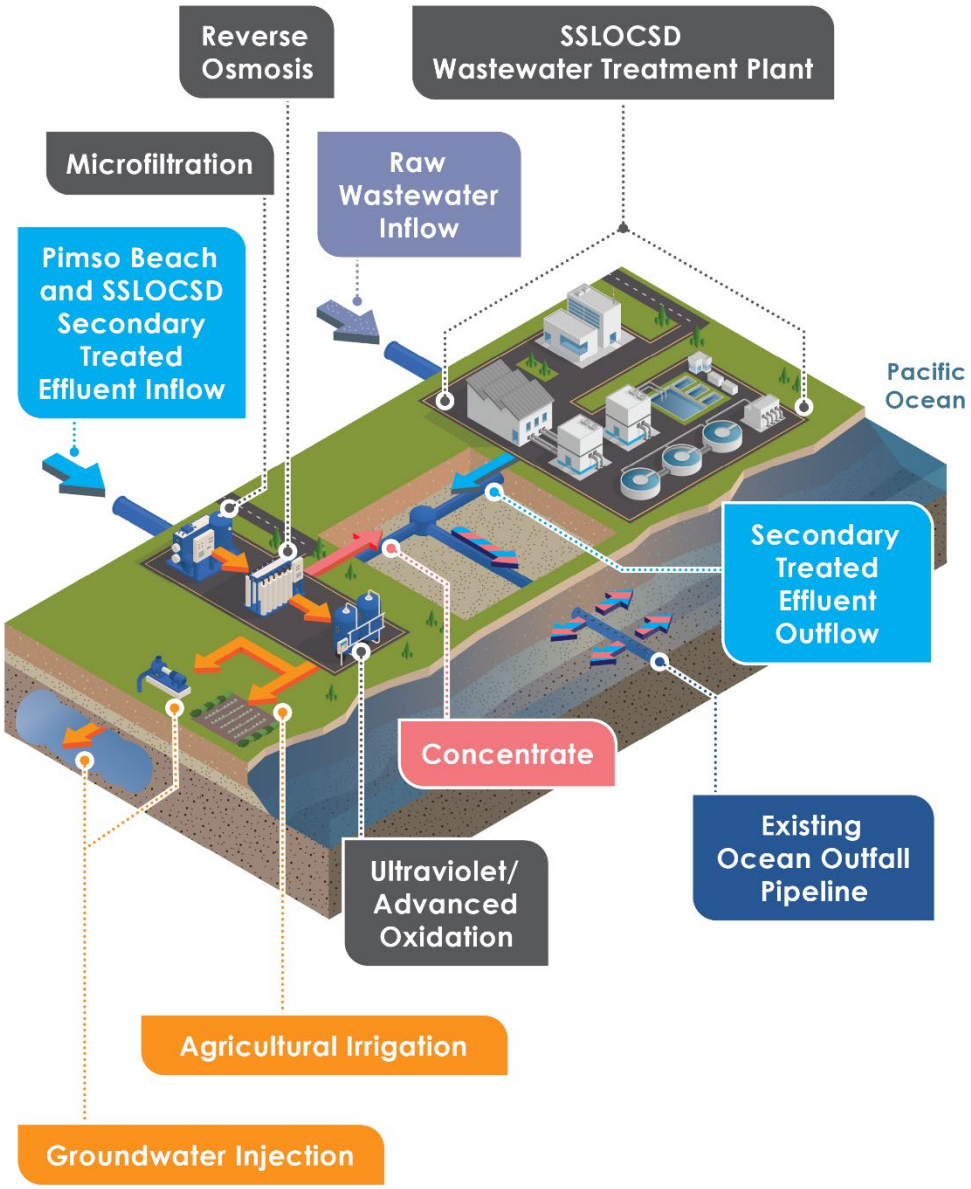
The ATF complex would initially receive and treat flows from the Pismo Beach WWTP and flows from the SSLOCSD WWTP would be added to the ATF treatment process at a later time. In preparation for the proposed project, a pilot advanced treatment system was installed at the Pismo Beach WWTP, known as the Central Coast Blue Demonstration Facility. The Central Coast Blue Demonstration Facility utilizes MF/UF, RO, and a UV/advanced oxidation process to purify WWTP secondary effluent into advanced purified water. The RO system within the Central Coast Blue Demonstration Facility produces a 75 percent to 85 percent yield of permeate, resulting in rejection of 15 percent to 25 percent as RO concentrate (also referred to as brine). Under the proposed project, this RO concentrate would be discharged to the ocean via the existing ocean outfall. This concentrate closely represents the concentrate expected from a full-scale RO process treating effluent from the Pismo Beach WWTP. Therefore, this RO concentrate was used to prepare the *RO Concentrate Sampling Plan Results* (Carollo 2018; included as Appendix C) to characterize the proposed project's anticipated constituent concentrations in its concentrate discharge.

The *RO Concentrate Sampling Plan Results* (Carollo 2018) indicates the concentrations of the large majority of constituents present in the RO concentrate will not cause exceedances of the City's NPDES permit's effluent concentration limits. Based on the study, the two parameters causing exceedances based on an actual detected concentration were Total Suspended Solids and Total Residual Chlorine. For Total Suspended Solids, five of six samples were in compliance, and the single exceedance was assumed to be in error. For Total Residual Chlorine, all six samples exceeded the effluent limit in both the RO source water and RO concentrate (Carollo 2018). As such, the exceedances recorded in the RO source water are a result of the secondary treatment process at the Pismo Beach WWTP, not the proposed advanced treatment process. Nevertheless, the ATF complex would include a process to neutralize the chlorine, which would resolve the exceedances of the Total Residual Chlorine effluent limitation.

Toxicity results indicate RO concentrate would be in compliance for both chronic and acute toxicity requirements. Radioactivity testing indicates the RO concentrate would also be in compliance for radioactivity standards in the NPDES permit, though there was one exceedance of the screening level during testing (Carollo 2018). Therefore, impacts related to radioactive toxicity would be potentially significant. Mitigation Measure HWQ-1 requires initial quarterly monitoring at the full-scale facility to establish future monitoring requirements and possible additional analysis of beta/photon emitters and to determine whether violations of the maximum contaminant level specified under California Code of Regulations Title 22, Division 4, Chapter 15, Article 5, Section 64443 occur. The City would be required to resolve any violations of the maximum contaminant level in compliance with its NPDES permit. Implementation of Mitigation Measure HWQ-1 would reduce impacts related to radioactive toxicity to a less-than-significant level.

Testing of RO concentrate produced using the secondary treated wastewater from the SSLOCSD WWTP has not been performed because the SSLOCSD WWTP effluent water quality is expected to change with implementation of the planned SSLOCSD WWTP Redundancy Project. Similar RO

Figure 4.8-5 Reverse Osmosis Concentrate Discharge Process



concentrate testing would be performed for the SSLOCSD WWTP as for the Pismo Beach WWTP before the ATF complex begins treatment of these flows. If exceedances are identified, the SSLOSCD would be required to resolve those exceedances in compliance with the effluent limitations outlined in its NPDES permit (see Table 4.8-4 and Table 4.8-5 in Section 4.8.1(e), *Regulatory Setting*). Ultimately, the proposed project would be required to minimize discharge constituent concentrations to comply with both the Pismo Beach WWTP NPDES Permit (Permit No. CA0048151, Order No. R3-2015-0016) and SSLOCSD WWTP NPDES Permit (Permit No. CA0048003, Order No. R3-2019-0002). The proposed project would be subject to monitoring and reporting requirements identified in these permits. In addition, the proposed project would be subject to the WQOs in the California Ocean Plan.

Compliance with Mitigation Measure HWQ-1, NPDES permit requirements, and the Ocean Plan would minimize constituent concentrations in the proposed project's discharged effluent into the Pacific Ocean and protect marine water quality. As a result, the proposed project would not violate marine water quality standards or otherwise substantially degrade marine water quality and would not conflict with or obstruct implementation of the Ocean Plan. Therefore, this impact would be less than significant with mitigation incorporated. Section 4.2, *Biological Resources*, evaluates the potential impacts of the ocean outfall and RO concentrate discharge on marine ecosystems.

Groundwater Quality

The proposed project would inject advanced purified water into the SMGB via seven new injection wells located within one-half mile of the coast to protect the SMGB from degradation via seawater intrusion. Advanced treatment would add several additional treatment steps to further purify treated effluent from the Pismo Beach and SSLOCSD WWTPs before it is injected into the basin.

In November 2019, GEOSCIENCE prepared a *Hydrogeologic Evaluation* (Appendix G) for the proposed project. The *Hydrogeologic Evaluation* expanded on previous groundwater models to include an evaluation of injection and extraction scenarios with flows from the Pismo Beach and SSLOCSD WWTPs. The analysis modeled a baseline scenario run against six scenarios to evaluate impacts from groundwater pumping, climate change, sea level rise, implementation of the proposed project, and combinations thereof. In modeled scenarios with groundwater injections from the proposed project, seawater intrusion potential was minimized. The NCMA Deep Well Index, which takes into account three deep wells in the NCMA, is used as a general indicator for assessing the potential of seawater intrusion. Based on historical observed instances of seawater intrusion in 2009, a Deep Well Index threshold of 7.5 feet was developed. If the Deep Well Index is above this threshold, a generally seaward flux at the coast is maintained for most layers, thereby limiting or preventing seawater intrusion. In modeled scenarios with groundwater injections from the proposed project, the Deep Well Index remains above the threshold for the duration of the simulation period. In comparison, in all other modeled scenarios accounting for varying climatic conditions and pumping regimes, the Deep Well Index either remains below the threshold for the duration of the simulation period or fluctuates above and below (GEOSCIENCE 2019).

The *Hydrogeologic Evaluation* also modeled particle tracking to estimate the travel time from the injection sites to the nearest water supply wells (also referred to as "response retention time"). The modeling concluded that the response retention time between injection well locations and most municipal production wells is at least one year. The exception is the City's Well 23 for which the response retention time is six months (GEOSCIENCE 2019). According to 22 California Code of Regulations Section 60320.224, *Response Retention Time*, the response retention time is required to

be no less than two months. Therefore, the proposed project's residence time would be sufficient to meet the requirements of the SWRCB Division of Drinking Water.

In addition, to demonstrate the retention time underground is sufficient for the protection of public health, Title 22 requires development of a tracer study to confirm the simulated results prior to the end of the third month of operation. Title 22 also requires an Engineering Report to be approved by the SWRCB Division of Drinking Water before implementation of any recycled water project. The Engineering Report would include an Antidegradation Analysis to evaluate the potential for the proposed project to negatively impact ambient groundwater quality and a description of compliance with Groundwater Replenishment Reuse Project regulations. Submittal of an approved Title 22 Engineering Report to the California Department of Public Health is a prerequisite for issuance of a SWRCB Recycled Water Policy General Permit. Division of Drinking Water conditional approval and recommendations would be included in the project's WDRs described below.

The proposed project would be issued a WDR for injection of advanced purified water into the SMGB. The permit would be based on 22 California Code of Regulations Division 4, Chapter 3, *Water Recycling Criteria*, which establishes regulations for groundwater replenishment reuse projects, and specifically Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment - Subsurface Application*. This regulation requires the proposed project to address the following:

- Pathogen control
- Compliance with drinking water standards (primary and secondary maximum contaminant levels)
- Controls of unregulated chemicals (action levels and notification levels)
- Total organic carbon
- Total nitrogen
- Response Retention Time
- Source water, product water, and groundwater monitoring and reporting
- Alternative source of drinking water supply to all users should the regulations be violated

Receipt of WDRs from the Central Coast RWQCB to operate the proposed project in accordance with Title 22 requirements would minimize water quality impacts to nearby water supply wells. The proposed project would be required to comply with applicable permits and water quality regulations and therefore would not violate groundwater quality standards or WDRs. This impact would be less than significant.

A portion of water produced by the ATF may be used for agricultural irrigation activities. This recycled water would also be subject to compliance with California Code of Regulations Title 22, Division 4, *Environmental Health*, Chapters 1 through 3, which includes requirements for the treatment of recycled water used for surface irrigation and includes separate treatment standards depending on whether recycled water will come into contact with the edible portion of food crops eaten raw by humans. Water used for agricultural irrigation may percolate to the groundwater basin underlying agricultural lands; however, this water would be the same in quality as that produced for the purpose of groundwater injection. Therefore, this impact would also be less than significant.

The Basin Plan includes WQOs for groundwater related to beneficial uses (Central Coast RWQCB 2019a). Compliance with applicable NPDES permits and implementation of construction and operational BMPs would protect groundwater quality and minimize the proposed project's potential impacts to beneficial uses of groundwater from the SMGB. As such, the proposed project would not

interfere or obstruct implementation of the Basin Plan. In addition, as discussed further under Impact HWQ-2, the proposed project would have a beneficial impact on groundwater levels and supplies and would not cause groundwater producers in the NCMA to exceed pumping limitations established in the SMGB Adjudication Judgment. As such, the proposed project would not conflict with or obstruct implementation of a groundwater management plan. Impacts would be less than significant.

Public Health

The proposed project would inject advanced purified water into the underlying SMGB at a depth of approximately 200 to 600 feet below ground surface. The SMGB would serve as an environmental buffer for the advanced purified water before it is extracted via municipal production wells and pumped into the potable water system. As discussed under *Groundwater Quality*, response retention time is at least one year for all municipal wells except for the City's Well 23 for which the response retention time is six months (GEOSCIENCE 2019). These response retention times are in compliance with the standard of two months set forth by 22 California Code of Regulations Section 60320.224, which is intended to allow the ample time for the project sponsor to identify treatment failures and implement protective actions before the drinking water supply is affected.

In 2012, the National Academy of Sciences published a study titled "Potential for Expanding the Nation's Water Supply through Reuse of Municipal Wastewater." According to the study:

> … the risk of exposure to certain microbial and chemical contaminants from drinking reclaimed water does not appear to be any higher than the risk experienced in at least some current drinking water treatment systems and may be orders of magnitude lower (National Academy of Sciences 2012).

Standards for indirect potable reuse are designed to be protective of human and environmental health. The proposed project's residence time would be sufficient to meet the requirements of the SWRCB Division of Drinking Water. As also discussed under *Groundwater Quality*, the proposed project would be issued a WDR permit for injection of advanced purified water into the SMGB. The permit would be based on Title 22 California Code of Regulations Division 4, Chapter 3, *Water Recycling Criteria*, which establishes regulations for groundwater replenishment reuse projects, and specifically Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment - Subsurface Application*. Compliance with applicable regulations would protect the water quality of the SMGB and human health related to consumption of groundwater produced from the SMGB. This impact would be less than significant.

Mitigation Measure

In addition to Mitigation Measure HWQ-1 described below, implementation of Mitigation Measure BIO-3(c) as outlined in Section 4.2, *Biological Resources*, would be required.

HWQ-1 Initial Quarterly Radioactivity Testing

Initial quarterly monitoring will be conducted at the full-scale facility for the first year of operation to establish future monitoring requirements and possible additional analysis of beta/photon emitters. If monitoring detects violations of the maximum contaminant level for radioactivity specified by California Code of Regulations Title 22, Division 4, Chapter 15, Article 5, Section 64443 occur, these exceedances shall be resolved. Potential treatment process to resolve identified

exceedances would include, but would not be limited to, ion exchange, lime softening, and coagulation filtration.

Significance After Mitigation

Mitigation Measure HWQ-1 would require implementation of initial quarterly radioactive monitoring to identify violations of radioactivity levels and resolution of exceedances via additional treatment processes, and Mitigation Measure BIO-3(c) would require implementation of best management practices for grading and construction within jurisdictional areas where impacts are authorized and where construction occurs within 100 feet from jurisdictional areas or wetlands. As a result, implementation of Mitigation Measures HWQ-1 and BIO-3(c) would reduce project impacts on water quality standards to a less-than-significant level.

Threshold:	Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Impact HWQ-2 PROJECT CONSTRUCTION AND OPERATION WOULD NOT CHANGE THE GROUNDWATER PUMPING LIMITATIONS ESTABLISHED IN THE SMGB ADJUDICATION AGREEMENT. IN ADDITION, THE PROPOSED PROJECT WOULD HAVE A BENEFICIAL IMPACT ON THE SMGB. THEREFORE, NO ADVERSE IMPACT RELATED TO GROUNDWATER SUPPLIES AND GROUNDWATER RECHARGE WOULD OCCUR.

Project construction would require groundwater pumping activities during well development at a rate of approximately 100 to 300 gallons per minute for the monitoring wells and 100 to 1,500 gallons per minute for the injection wells. Well development would produce approximately 300,000 gallons (0.9 acre-feet) of water per monitoring well and approximately 3,500,000 gallons (10.8 acre-feet) of water per groundwater well. Groundwater produced during well development would be disposed of via connections to the existing Pismo Beach WWTP discharge pipeline that runs below SR 1. These pumping activities would be temporary in nature and would not exceed the groundwater pumping limitations established in the SMGB Adjudication Judgment.

In response to the 2009 seawater intrusion event in the coastal wells, NCMA agencies have decreased groundwater pumping levels below their respective allocations established in the SMGB Adjudication Agreement to protect the groundwater supply. To address this issue, the proposed project would develop a seawater intrusion barrier by injecting advanced purified water treated at the ATF complex into the SMGB for groundwater replenishment. As such, the proposed project would protect the existing groundwater supply for continued use by NCMA agencies as a potable water supply, and in doing so, would have a beneficial impact on groundwater levels and supplies. Advanced purified water would be treated to Title 22 standards before being injected into the groundwater basin. Therefore, the project would not cause adverse impacts to groundwater quality or surface water quality of those surface water bodies that are hydrologically connected to the SMGB.

As a result of the proposed project, NCMA agencies would likely increase their groundwater pumping rates as compared to recent years because the project will provide additional groundwater recharge through the injection wells and reduced pumping rates would no longer be necessary to protect the groundwater supply from seawater intrusion. The project would modify the hydraulic gradients within the lower aquifer formations of the SMGB by increasing the hydraulic grade near the injection wells to provide a barrier against seawater intrusion, thereby facilitating the NCMA agencies' ability to increase groundwater pumping above current levels, without creating conditions

that would lead to degradation of groundwater supplies from seawater intrusion. The project is not intended to impact or modify use of the shallow groundwater aquifer in the project area. Although the increased amount of groundwater pumped by NCMA agencies may exceed the quantity of advanced purified water injected into the groundwater basin, NCMA agencies would still be required to adhere to the pumping limitations established in the SMGB Adjudication Judgment, which were developed in consideration of the SMGB's estimated safe yield of 9,500 AFY (NCMA Technical Group 2019). The project does not propose to increase the groundwater allocations for any of the NCMA agencies. Furthermore, as discussed in Section 2, *Project Description*, for the past two decades, NCMA agencies have implemented monitoring and adaptive management strategies to evaluate groundwater supplies and respond to varying year-to-year climatic and groundwater conditions. To some extent, the project would alleviate climatic pressures on the SMGB by providing a reliable source of groundwater recharge. Nevertheless, this ongoing adaptive management program would continue to occur under the proposed project and may include, but would not be limited to, modifying the quantities of water injected at each injection well, modifying or reducing the quantity of water extracted from NCMA production wells, and modifying which NCMA production wells are extracting water in response to varying year-to-year climatic and groundwater conditions. Because the project would recharge the SMGB and would not result in changes to the pumping limitations of the SMGB Adjudication Judgement, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin No adverse impact would occur.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) Result in substantial erosion or siltation on- or off-site? ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? iii) 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?

Impact HWQ-3 THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE PROJECT AREA IN A MANNER WHICH WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE; SUBSTANTIALLY INCREASE THE RATE OR AMOUNT OF SURFACE RUNOFF IN A MANNER WHICH WOULD RESULT IN FLOODING ON- OR OFF-SITE; OR 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. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Construction activities associated with the proposed project (e.g., concrete work and drilling for injection wells, monitoring wells, and production well; trenching activities for pipelines; and demolition and building construction activities for the ATF complex) could introduce additional

pollutants and sediment into stormwater runoff. As discussed under Impact HWQ-1, the proposed project would be required to comply with the *Construction General Permit* and implement a SWPPP, which would include BMPs to minimize erosion, siltation, and polluted runoff. With regulatory compliance, potential construction impacts associated with drainage pattern alterations would be less than significant.

Operation

The proposed project would construct an ATF complex, equalization storage basin, storage tank, and pump station on an approximately 1.5-acre parcel in Grover Beach that currently contains unpaved storage yards. The new infrastructure would increase impervious surface area at the site and alter site-specific drainage patterns. The parcel would be graded to provide a level base for the ATF complex, provide site access, and install appropriate stormwater drainage features. In addition, the proposed injection wells, monitoring wells, and production well would include some aboveground piping and infrastructure such as electrical panels, control panels, storage facilities, and vaults. These aboveground features would also introduce impervious surfaces, although the majority of monitoring wells would be located within existing paved roadways. Upon completion of construction, water distribution and agricultural irrigation pipelines would be located entirely underground and would not alter aboveground drainage patterns.

As discussed under Impact HWQ-1, the proposed ATF complex would be subject to the *Central Coast Post-Construction Stormwater Requirements* (Central Coast RWQCB Order R3-2013-0032) and would implement BMPs to reduce pollutant discharges and minimize stormwater runoff volumes. BMPs may include low impact development measures such as bioswales and permeable pavement. Specific BMPs and their respective components are subject to the approval of the RWQCB, which will review and approve of all features of the required BMPs. In addition, project components would be subject to the Grover Beach Stormwater Management Program and SLOCC and GBMC sections governing stormwater runoff and the minimum control measures and BMPs contained therein. Compliance with the *Central Coast Post-Construction Stormwater Requirements* and applicable local regulations would mandate BMPs and design features to control stormwater runoff quality and quantity. With regulatory compliance, potential operational impacts associated with drainage pattern alterations would be less than significant.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?
Threshold:	In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Impact HWQ-4 SOME PROJECT COMPONENTS, INCLUDING INJECTION WELLS, WATER DISTRIBUTION PIPELINES, AND A MONITORING WELL, WOULD BE LOCATED IN FLOOD HAZARD AREAS. HOWEVER, THE PROJECT WOULD NOT IMPEDE OR REDIRECT FLOOD FLOWS, NOR WOULD IT RISK RELEASE OF POLLUTANTS DUE TO PROJECT INUNDATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

For the purposes of this analysis, "flood hazard areas" include the 100-year floodplain and the 500-year floodplain. As shown in Figure 4.8-4, existing wastewater treatment and conveyance infrastructure (e.g., Pismo Beach and SSLOCSD WWTPs and the existing WWTP discharge pipeline) are located within the 100-year floodplain. The existing production wells are not located in a flood hazard area. The proposed ATF complex would be located outside of an identified flood hazard area. Most of the proposed water distribution pipelines and injection wells would be located within the 100-year floodplain with the exceptions of IW-3, which would be in the 500-year floodplain, and IW-4, which would be located outside of a flood hazard area. Most monitoring wells would be outside of flood hazard areas, except for MW-5A/5B/5C, which would be in the 100-year floodplain. The precise locations of the potential agricultural irrigation pipelines are yet to be determined, but portions of these pipelines would be = in the 100-year floodplain encompassing the agricultural lands in the southern portion of the project area.

The project components located in flood hazards areas could be inundated during a 100-year or 500-year flood event. In addition, because these project components would be close to the coast, these same project components would be located in a tsunami zone and could be inundated during a tsunami event. However, none of the project components would be in a seiche zone.[1]

Upon completion of construction, the project's water distribution pipelines and agricultural irrigation pipelines would be located entirely underground and would not be subject to flood hazards. In addition, the proposed injection wells, monitoring wells, and production well located in flood hazard areas would not be vulnerable to flood hazards because they would be located primarily underground. Electrical equipment located aboveground would be vulnerable to inundation but would not risk release of pollutants or exacerbate flood risks. Any chemicals stored at the injection well locations would be double-contained to prevent release of pollutants. In the unlikely event that advanced purified water is released from the injection wells during a flood event, this water would not risk release of pollutants because it would be treated to Title 22 standards. Furthermore, the monitoring wells would be capped and sealed to prevent floodwaters from entering, and the injection wells would be equipped with monitoring equipment, supervisory control and data acquisition (SCADA) equipment, and alarms to detect flooding and shut off wells to prevent floodwaters from entering and potentially polluting groundwater. Given these design features, injection and monitoring wells would not risk the release of pollutants in the event of inundation. In flood conditions, access to the wells may be restricted. However, this restriction would be temporary and would not affect the long-term ability to access and utilize the wells.

[1] A "seiche" is a wave generated by earthquake in a lake, reservoir, or harbor.

The ATF complex would be constructed on a site in Grover Beach. Per GBMC Article IX, Section 5.10.050.B.1, all new and replacement water supply and sanitary sewage systems located in Grover Beach are required to be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters, which would minimize the risk of release of pollutants from project components.

The proposed project would not exacerbate flood risks, risk release of pollutants due to project inundation, or introduce people or structures to additional risks associated with flooding. This impact would be less than significant.

c. Cumulative Impacts

The geographic scope for cumulative hydrology and water quality impacts is the NCMA portion of the Pismo Creek and Arroyo Grande Creek Watersheds. In this area, water generally flows from east to west and downhill towards the Pacific Ocean. This geographic scope is appropriate for hydrology and water quality because water quality impacts are localized and specific to the watershed in which the impact occurs. Cumulative development within this geographic scope includes the cumulative projects summarized in Table 3-1.

Cumulative development would generally increase impermeable surface area in the Pismo Creek and Arroyo Grande Creek Watersheds. Development would potentially increase peak flood flows, alter drainage patterns, reduce groundwater recharge, and increase pollutants in regional stormwater flows. However, cumulative development would also be required to adhere to all applicable state and local regulations designed to control erosion and protect water quality, including the NPDES *Construction General Permit*. All construction sites larger than one acre in size would be required to prepare and submit a SWPPP, thereby reducing the risk of water degradation on- and off-site from soil erosion and other pollutants. In addition, the Central Coast RWQCB post-construction requirements for stormwater management require on-site treatment and infiltration of stormwater runoff for certain projects. This would reduce the quantity of stormwater runoff that enters the storm drainage system and discharges to the Pacific Ocean.

In addition, implementation of NPDES, SLOCC, and GBMC requirements would reduce the potential for increased pollutants in stormwater and groundwater. The NPDES *Construction General Permit* requires the implementation of BMPs on all construction sites to limit erosion and sedimentation, thereby minimizing water quality impacts. These requirements would also decrease operational effects of cumulative development associated with flood-related issues because each development proposal would be required to reduce the on-site post-development peak discharges (surface flows) at or below pre-development peak discharge rates by implementing on-site low impact development features and other groundwater recharge design elements.

Furthermore, the SSLOCSD WWTP Redundancy Project would construct new wastewater treatment equipment and provide backup redundancy for treatment processes at the SSLOCSD facility. This project would bolster the SSLOCSD facility's ability to meet its NPDES permit limitations in case of equipment failure or emergency conditions. Implementation of the SSLOCSD WWTP Redundancy Project would have a beneficial impact on marine water quality and would not result in a significant cumulative impact in conjunction with the proposed project.

Therefore, cumulative impacts would be less than significant. Consequently, the proposed project would not have a cumulatively considerable contribution to a significant cumulative impact related to hydrology and water quality.

4.9 Land Use/Planning

The project area in this section is defined as Oceano and Grover Beach, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.9.1 Setting

a. Regional Setting

The project area extends from West Grand Avenue in Grover Beach in the north to unincorporated San Luis Obispo County, including Oceano, in the south, and from the Pacific Ocean to the eastern city limit of Grover Beach in the east. Figure 2-1 in Section 2, *Project Description*, shows the location of the project area in the region.

b. Project Area Setting

The project area is largely developed with urban land uses with the exception of the southern portion, which is mostly agricultural land in unincorporated San Luis Obispo County, south of Oceano. SR 1 and the Union Pacific Railroad track run north-south through the western portion of the project area. The Union Pacific Railroad track also runs northwest-southeast through the southern portion of the project area. Major urban features include Oceano County Airport and the SSLOCSD WWTP. Figure 2-3 in Section 2, *Project Description*, shows the location of the project area and project components with known locations in a local context, and Figure 3-2 in Section 3, *Environmental Setting*, shows features of interest within the project area, including parks, schools, hospitals, and major surface water bodies.

Figure 2-3 in Section 2, *Project Description*, presents the known locations of project components, and Table 2-2 in Section 2, *Project Description*, summarizes the General Plan and zoning designations for these project components. All of the project components would be located within one mile of the coast with the exception of the existing production wells that would be used for the proposed project, the one new production well likely to be located in Grover Beach, and the agricultural irrigation pipelines and associated irrigated lands. The new production well would be owned and operated by the City and likely would be located in Grover Beach on land leased or acquired by the City. Potential agricultural irrigation pipelines would likely be located within public rights-of-way, as feasible. These pipelines would also traverse Arroyo Grande Creek and extend through agricultural lands south of Oceano, where they would terminate at the agricultural properties to be irrigated.

c. Regulatory Setting

Federal

Coastal Zone Management Act

The Coastal Zone Management Act was passed by Congress in 1972. It provides for management of coastal resources and aims to protect, restore, and enhance coastal resources through three programs administered by the National Oceanic and Atmospheric Administration in partnership with coastal States. In California, the Coastal Zone Management Act is administered in partnership with the CCC. The National Coastal Zone Management Program balances competing land and water issues. Programs under the Coastal Zone Management Act include the National Estuarine Research Reserve System, which protects estuaries for use as field laboratories that improve understanding of estuaries, and the Coastal and Estuarine Land Conservation Program, which assists with acquisition of coastal property or easements for conservation purposes.

State

California Coastal Commission

The CCC was established in 1972 and became a permanent body under the California Coastal Act of 1976. The CCC is responsible for regulating land and water use in the coastal zone. Development in the coastal zone generally requires a Coastal Development Permit from the CCC or local government. The CCC also administers the federal Coastal Zone Management Act through the Coastal Management Program and has regulatory control over all federal activities and federally licensed activities that affect coastal resources (CCC 2019). The CCC also oversees LCPs developed by local agencies. LCPs are planning documents that help guide developments in coastal areas and protect coastal resources. After an LCP is approved, the CCC transfers its coastal permitting authority in that jurisdiction to the local agency, which permits new development in accordance with the requirements of the LCP. However, the CCC retains jurisdiction over development proposed on tidelands, submerged lands, and public trust lands.

Local

Project components are proposed to be located only in Grover Beach and unincorporated San Luis Obispo County, specifically in the community of Oceano. Therefore, land use plans, policies, and ordinances established by the Cities of Pismo Beach and Arroyo Grande are not discussed herein. As such, local plans, policies, and ordinances applicable to the project are limited to those established by the County of San Luis Obispo and the City of Grover Beach.

Grover Beach

GENERAL PLAN

The Grover Beach General Plan provides goals, policies, standards, implementation programs, quantified objectives, a land use diagram, and circulation plan diagram that constitute the formal policy of the City of Grover Beach for land use, development, and environmental quality (City of Grover Beach 2010).

LOCAL COASTAL PROGRAM

A portion of Grover Beach lies in the Coastal Zone; therefore, the City of Grover Beach has adopted an LCP to guide development in this area of the city. The LCP provides additional policies and programs to ensure consistency with the Coastal Act, addressing a diverse range of issues that include marine resources, water supply and agricultural land, protection of visual resources, public access and recreation, and infrastructure necessary to support coastal-related and costal-dependent land uses (City of Grover Beach 2010). The LCP covers 4,100 feet of coastline and extends inland approximately 3,000 to 6,500 feet from the coast (City of Grover Beach 2014). Within the Coastal Zone, the LCP (which consists of relevant Development Code sections as well), is the legal standard of review for issuance of Coastal Development Permits.

DEVELOPMENT CODE

The Grover Beach Development Code carries out the policies of the Grover Beach General Plan by classifying and regulating the uses of land and structures within the city limits, consistent with the General Plan. The development code is intended to protect and promote the public health, safety, and general welfare of residents and businesses in Grover Beach.

County of San Luis Obispo

GENERAL PLAN AND LOCAL COASTAL PROGRAM

The San Luis Obispo County General Plan includes its Coastal Zone Framework for Planning. The Land Use Plan portion of the Land Use Element of the County's General Plan, together with the Coastal Zone Land Use Ordinance and related maps, comprise the County's LCP. It was first adopted in 1988 and revised in September 2018 (County of San Luis Obispo 2018). Although this document governs land uses in a variety of manners, the section most relevant to the project is Chapter 6, *Land Use Categories & Allowable Uses*, which addresses development and land uses generally.

COASTAL ZONE LAND USE ORDINANCE

The purpose of the County's Coastal Zone Land Use Ordinance is to protect and promote the public health, safety, and welfare by implementing the County General Plan and LCP, regulating land use, minimizing adverse effects on the public, and protecting and enhancing resources identified in the County General Plan. The Coastal Zone Land Use Ordinance includes combining designations, which are supplemental categories used on the official maps to identify areas of the County where special characteristics, resources, or hazards to the public necessitate review of proposed land uses to evaluate their compatibility with those characteristics, resources or hazards.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds

The following thresholds are based on Appendix G of the CEQA Guidelines. Impacts would be significant if the project would:

- Physically divide an established community; or
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The CEQA Guidelines require that an EIR consider whether a proposed project may conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determinations of whether a proposed project is consistent with a jurisdiction's general plan and land use designation. Conflicts of a project with land use policies do not alone constitute significant environmental impacts; policy conflicts are considered environmental impacts only when they would result in direct environmental effects. To the extent that physical environmental impacts may result from such conflicts, this EIR discloses and analyzes these physical impacts under the specific environmental issue area sections. Applicable policies from the San Luis Obispo County Air Pollution Control District 2001 Clean Air Plan, City of Grover Beach General Plan, and the City's Climate Action Plan are discussed in Section 4.1, *Air Quality*, Section 4.4, *Energy*, and Section 4.6, *Greenhouse Gas Emissions*, respectively. Applicable plans, policies, and regulations related to biological resources, noise, and transportation are discussed in Section 4.2, *Biological Resources*, Section 4.10, *Noise*, and Section 4.11, *Transportation*, respectively. When applicable, mitigation measures to reduce to avoid impacts are identified to reduce potential impacts to a less-than-significant level.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project physically divide an established community?

Impact LU-1 THE PROJECT WOULD NOT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY. NO IMPACT WOULD OCCUR.

Project components include the ATF complex, water distribution and agricultural irrigation pipelines, and injection, monitoring, and production wells. The proposed pipelines would be located underground primarily along existing rights-of-way, and the proposed injection wells would be located on small portions of existing parcels. The proposed ATF complex would be located at 980 Huber Street on an existing approximately 1.5-acre parcel in an industrial area. Some monitoring wells would be located in public roadways; however, they would be located in traffic-rated flush-mount vaults that would allow for continued use of roadways by vehicular traffic. The project would not construct or alter roadways or other features in such a manner that would physically divide a community. Therefore, no impact would occur.

Mitigation Measures

No mitigation is required.

Threshold:	Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Impact LU-2 THE PROJECT WOULD POTENTIALLY RESULT IN SIGNIFICANT ENVIRONMENTAL IMPACTS DUE TO POTENTIAL CONFLICTS WITH LAND USE PLANS, POLICIES, AND REGULATIONS ADOPTED FOR THE PURPOSE OF AVOIDING OR MITIGATING AN ENVIRONMENTAL EFFECT. IMPLEMENTATION OF MITIGATION MEASURES HAZ-1(A), HAZ-1(B), N-1, AND N-2 WOULD BE REQUIRED. ALTHOUGH MITIGATION IS AVAILABLE TO ADDRESS THIS IMPACT, IT MAY NOT BE FEASIBLE TO REDUCE ALL CONSTRUCTION NOISE IMPACTS THAT WOULD POTENTIALLY CONFLICT WITH LOCAL NOISE STANDARDS BELOW THE APPLICABLE THRESHOLDS. THEREFORE, IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

As discussed under Section 4.8.1(c), *Regulatory Setting*, land use plans, policies, and regulations from both the City of Grover Beach and the County of San Luis Obispo would apply to the proposed project. Figure 4.9-1 and Figure 4.9-2 show the land use and zoning designations, respectively, of properties where project components with known locations would be sited. Because many project components, including the injection and monitoring wells, would be located within the Coastal Zone, these components will be required to obtain Coastal Development Permits from the appropriate jurisdiction.

The project is intended to improve water supply reliability; create a sustainable, drought-resistant local water supply for southern San Luis Obispo County; and provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion. As such, the proposed project would support the following objectives of the Grover Beach General Plan Open Space and Conservation Element (City of Grover Beach 2020):

Goal COS-5. Water supply and quality in Grover Beach meets the needs and expectation of residents and biological resources and fulfills State and Federal requirements.

Policy COS-5.1. Water Supply. Ensure a sustainable and safe water supply though a combination of conservation and maximizing supply.

Implementation COS-5.1.a. Collaborate with County and local agencies to develop and implement water supply and supply resiliency projects.

Implementation COS-5.1.c. Continue to actively manage existing water resources to maximize availability and sustainability.

The proposed project would also support the following goals and policies of the San Luis Obispo County General Plan (County of San Luis Obispo 2010):

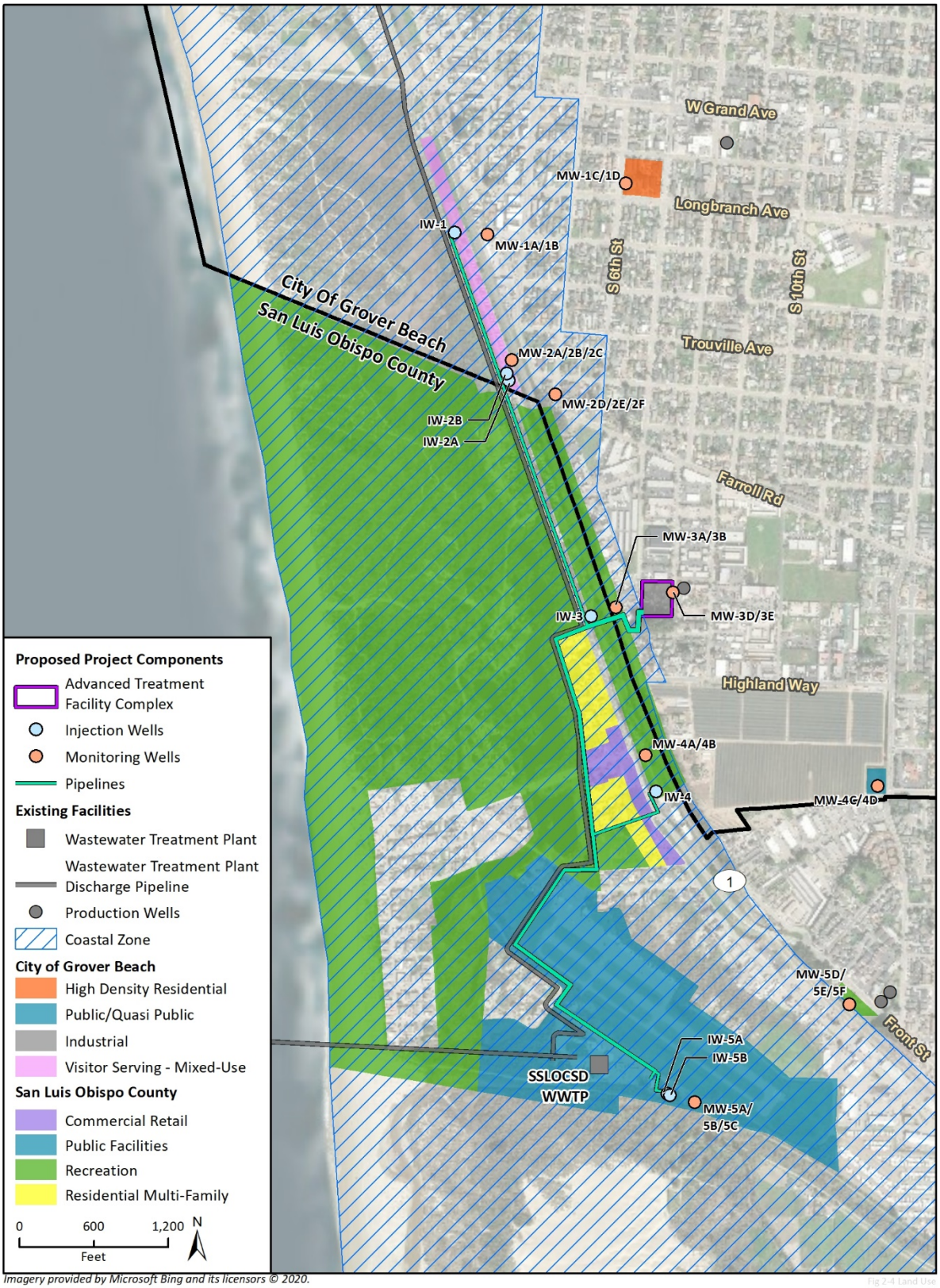
Goal 1. The County will have a reliable and secure regional water supply (IRWM).[1]

Policy WR 1.1. Protect water supplies. Continue to coordinate with water suppliers and managers to identify water management strategies to protect existing and secure new water supplies.

Policy WR 1.4 Use reclaimed water. The County will be a leader in the use of reclaimed water. Support expanding the use of reclaimed water to make up at least five percent of total water use by 2015 and 10 percent of total water use by 2020.

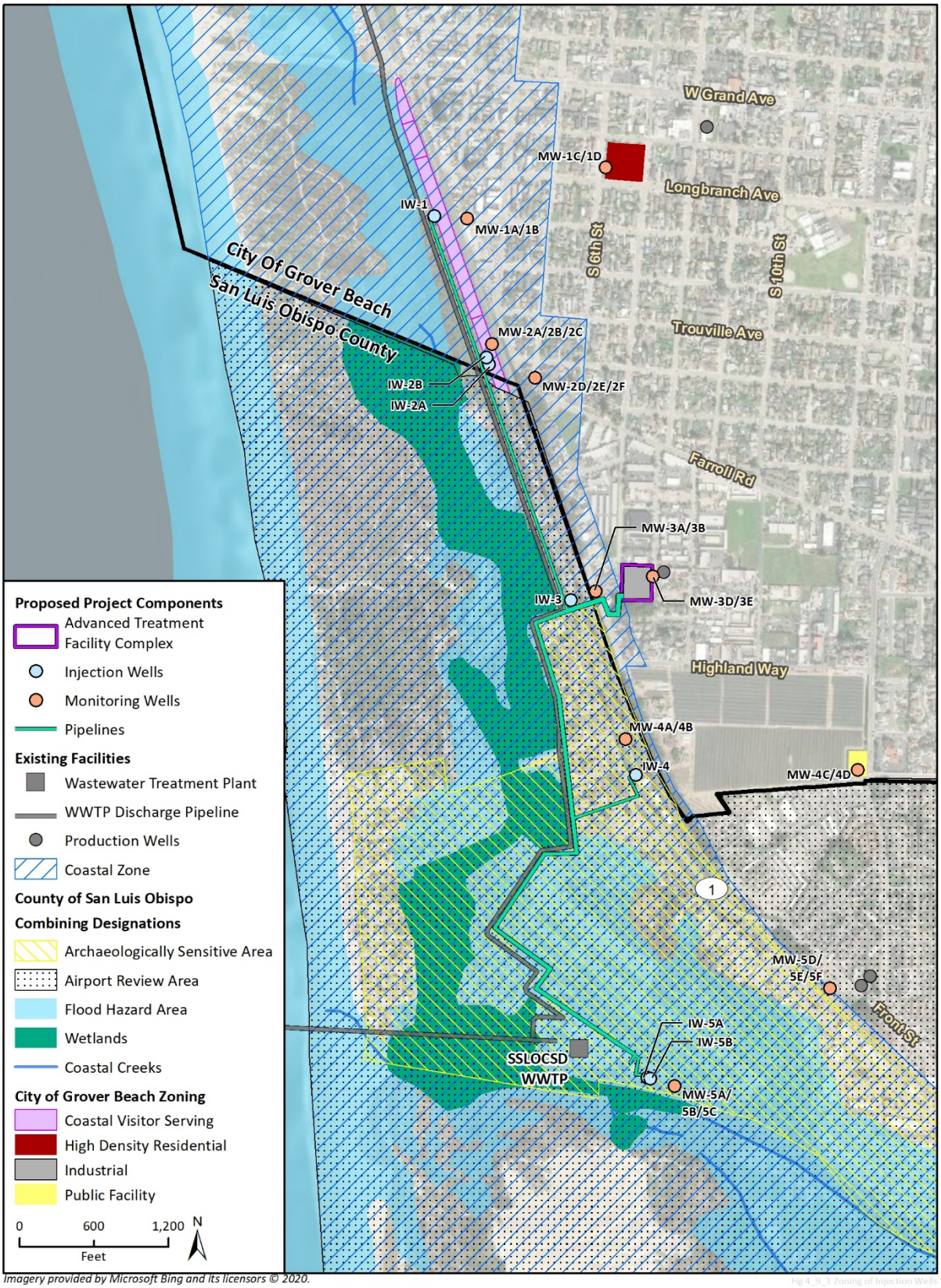
[1] IRWM refers to the County of San Luis Obispo's Integrated Regional Water Management Plan.

Figure 4.9-1 General Plan Land Use Designations of Project Components with Known Locations



Imagery provided by Microsoft Bing and its licensors © 2020.
Additional data provided by Grover Beach and San Luis Obispo County, 2008.

Figure 4.9-2 Zoning of Project Components with Known Locations



Imagery provided by Microsoft Bing and its licensors © 2020.
Additional data provided by County of San Luis Obispo and City of Grover Beach, 2017.

Goal 2. The County will collaboratively manage groundwater resources to ensure sustainable supplies for all beneficial uses.

Policy WR 2.4. Groundwater recharge. Where conditions are appropriate, promote groundwater recharge with high-quality water.

Goal 3. Excellent water quality will be maintained for the health of people and natural communities.

Policy WR 3.3. Improve groundwater quality. Protect and improve groundwater quality from point and non-point source pollution, including nitrate contamination; MTBE and other industrial, agricultural, and commercial sources of contamination; naturally occurring mineralization, boron, radionuclides, geothermal contamination; and seawater intrusion and salts.

Public and quasi-public land uses are allowed with a use permit in all zones in Grover Beach except for Coastal Open Space, Coastal Golf Course, Coastal Pedestrian Beach, and Coastal Vehicular Beach zones. Pipelines and public utility facilities are allowed in all zones in unincorporated San Luis Obispo County with varying types of permits and requirements (e.g., land use permit, site plan review, conditional use permit), depending on the zone.

Injection and Monitoring Wells

The injection and monitoring wells would be located in a variety of zones:

- **IW-1, IW-2A, IW-2B, and MW-2A/2B/2C** would be located on parcels in the Coastal Zone in Grover Beach designated Visitor Serving – Mixed Use and zoned Coastal Visitor Serving. The Coastal Visitor Serving zone applies to areas of the city appropriate for pedestrian-oriented commercial development. The Coastal Visitor Serving zone is a transitional area to the West Grand Avenue downtown area to the east. The provisions of this zone encourage an attractive area that provides convenience goods and services that support visitor needs related to beach activities and surrounding neighborhood areas. The provisions of this zone do not allow residential uses west of the Union Pacific Railroad track. Public and quasi-public facilities are permitted in this zone. Construction activities would require the temporary closure of several campsites near these injection and monitoring wells for the duration of construction. However, construction activities would be scheduled to occur during the off-season to reduce impacts to recreational activities in the Coastal Dunes RV Parks and Campground. Upon completion, project operation would permanently preclude the use of up to two campsites per injection well. As discussed in Section 4.12, *Effects Found Not to Be Significant*, there are over 230 campsites in this park. As such, these two wells would collectively impact approximately 1.8 percent of available campsites.
- **IW-3**, **IW-4, and MW-4A/4B** would also be located within the Coastal Dunes RV Park and Campground. These wells have a land use designation of Recreation and are located in the Coastal Zone, Archaeologically Sensitive Area, and the Airport Review Area combining designations. The Archaeologically Sensitive Area combining designation applies to archaeologically-sensitive areas where preliminary site surveys are required before certain permits (such as use permits and construction permits) are issued. As discussed in Section 4.3, *Cultural Resources*, an XPI/Phase II investigation was conducted in accordance with the requirements of the Archaeologically Sensitive Area. The XPI/Phase II investigation did not identify any significant cultural deposits within the project site (Rincon Consultants, Inc. 2020).

Nevertheless, given the archaeological sensitivity of the local area, implementation of Mitigation Measures CR-2(a) through CR-2(c) would be required to reduce impacts to unknown archaeological resources to a less-than-significant level, consistent with the requirements of the Archaeologically Sensitive Area combining designation. As with IW-2A and IW-2B, IW-3 and IW-4 would each permanently preclude the use of two campsites. As discussed in Section 4.12, *Effects Found Not to Be Significant*, there are over 230 campsites in this park. As such, IW-3 and IW-4 would collectively impact approximately 1.8 percent of available campsites for a total of approximately 3.6 percent of campsites impacted collectively by IW-2A, IW-2B, IW-3, and IW-4. As with IW-2A, IW-2B, and MW-2A/2B/2C, injection and monitoring wells IW-3, IW-4, and MW-4A/4B would be located in the Airport Review Area combining designation; however, the proposed injection wells would be only six feet in height, and the monitoring well would be flush-mounted with the ground surface. Therefore, these wells would not conflict with any of the imaginary surfaces required to be kept clear for airport operations.

- **IW-5A**, **IW-5B**, and **MW-5A/5B/5C** would be located within the SSLOCSD WWTP property, which has a land use designation of Public Facilities and is located in the Coastal Zone, Archaeologically Sensitive Area, Airport Review Area, Wetland, and Flood Hazard Area combining designations. As discussed in Section 4.3, *Cultural Resources*, the Cultural Resources Evaluation (Appendix E) did not identify any significant cultural resources associated with the IW-5A, IW-5B, and MW-5A/5B/5C locations. As with the other injection and monitoring wells, IW-5A, IW-5B, and MW-5A/5B/5C would be located in the Airport Review Area combining designation; however, the proposed injection wells would only be six feet in height, and the monitoring well would be flush-mounted with the ground surface. Therefore, these wells would not conflict with any of the imaginary surfaces required to be kept clear for airport operations. The Wetland combining designation is intended to maintain the natural ecological functioning and productivity of wetlands and estuaries and where feasible, to support restoration of degraded wetlands. The combining designation includes requirements for wetland setbacks and review by the California Department of Fish and Wildlife. As discussed in Section 4.2, *Biological Resources* under Impact BIO-3, the proposed project would be required to implement Mitigation Measures BIO-3(a), through BIO-3(c), which include preparation of a jurisdictional delineation to identify jurisdictional areas and implementation of avoidance and minimization measures to avoid, minimize, and compensate for direct and indirect impacts to state- or federally-protected wetlands from development of the project. Implementation of these mitigation measures would reduce project impacts to wetlands to less-than-significant levels.

  The Flood Hazard Area is applied to specific parcels where terrain characteristics would present new developments and their users with potential hazards to life and property from potential inundation by a 100-year frequency flood or within coastal high hazard areas. As discussed in Section 4.8, *Hydrology and Water Quality,* under Impact HWQ-4, impacts regarding flood hazards would be less than significant. Furthermore, a drainage plan would be required for IW-5A, IW-5B, and MW-5A/5B/5C in accordance with San Luis Obispo County Code (SLOCC) Section 23.07.064. These wells would also be subject to the requirements of SLOCC Section 23.07.064 through 23.07.066 for permit and processing, general hazard avoidance, and construction standards and would not conflict with any of these standards.

- **MW-1A/1B**, **MW-2D/2E/2F**, and **MW-3A/3B** would be located in public roadways and do not have associated land use designations or zoning. These monitoring wells would be located in traffic-rated flush-mount vaults that would allow for continued use of roadways by vehicular traffic.

- **MW-1C/1D** would be located on a parcel designated and zoned High-Density Residential. This zone is intended primarily as an area for small lot detached and attached single-family dwellings and multi-family residential dwellings. Public and quasi-public uses, and similar or compatible uses may also be appropriate (City of Grover Beach 2019).
- **MW-4C/4D** is located on a parcel designated Public/Quasi-public and zoned Public Facilities. This zone is applied to areas of the city appropriate for government-owned facilities, schools, and quasi-public uses (City of Grover Beach 2019). This parcel is currently used as a stormwater detention basin.
- **MW-5D/5E/5F** would be
- in an area with a Recreation land use and within the Coastal Zone and Airport Review Area combining designation. The proposed monitoring well would be flush-mounted with the ground surface and therefore would not conflict with any of the imaginary surfaces required to be kept clear for airport operations.

Injection, monitoring, and production wells would be designed and constructed in compliance with applicable development standards for the zoning and land use designation of each well location. Construction of the injection wells and associated monitoring wells would result in temporary closures of portions of the Coastal Dunes RV Park and Campground. Such disruptions to the existing land use would be temporary, short-term, and would occur during the off-season.

Coordination with property owners would occur to minimize interference with use of the Coastal Dunes RV Park and Campground and the SSLOCSD WWTP, such as adjusting the construction schedule to occur when use of the properties is less frequent or less intensive. Monitoring wells would be limited in size and footprint (approximately 25 square feet each), and once installed would not substantially interfere with existing land uses because they would be flush-mounted with the ground surface.

Construction of injection, monitoring, and production wells would create temporary noise impacts that could temporarily interfere with existing land uses and potentially conflict with applicable land use plans, policies, and regulations. As discussed in Section 4.10, *Noise*, implementation of Mitigation Measure N-1 would reduce impacts to the extent feasible. However, it is possible that the final well locations may shift within a 50-foot radius of their current locations during final engineering and/or during installation to account for subsurface conditions. As a result, the final well locations may be closer to sensitive receivers than analyzed herein such that the specified mitigation measures would not sufficiently reduce noise levels. Furthermore, residents within 200 feet of the MW-1C/1D, MW-2D/2E/2F, MW-4C/4D, and MW-5D/5E/5F locations may voluntarily choose not to temporary relocate during 24-hour well drilling activities and would be exposed to a significant temporary increase in ambient noise levels in excess of the specified thresholds, which are based on compliance with the SLOCC and GBMC. Therefore, construction noise during 24-hour well drilling activities would conflict with applicable land use plans, policies, and regulations, and this impact would be significant and unavoidable.

Water Distribution and Agricultural Irrigation Pipelines

The proposed water distribution and agricultural irrigation pipelines would be located underground and generally within public roadway rights-of-way parallel to existing utility infrastructure, in areas with land uses of public facilities, recreation, and industrial, and combining designations including Coastal Zone, Archaeologically Sensitive Area, Creek or Stream, Wetland, Airport Review Area, and

Flood Hazard Area. Once installed, pipelines would not affect aboveground land use nor would they conflict with applicable land use plans, policies, or regulations. As discussed in Section 4.3, *Cultural Resources*, a Phase I study was conducted in accordance with the requirements of the Archaeologically Sensitive Area and determined that construction of the water distribution pipelines would not have a significant effect on existing or known archaeological resources. Nevertheless, given the archaeological sensitivity of the local area, implementation of Mitigation Measures CR-2(a) through CR-2(c) would be required to reduce impacts to unknown archaeological resources to a less-than-significant level. Furthermore, because the specific locations of the agricultural irrigation pipelines are not known at this time, implementation of Mitigation Measure CR-2(d) would be required, which includes preparation of an archaeological resource study for this project component and implementation of Phase II and Phase III procedures, as necessary. As a result, impacts to known and unknown archaeological resources would be reduced to a less-than-significant level, consistent with the requirements of the Archaeologically Sensitive Areas combining designation. Construction of water distribution pipelines would result in temporary closures of lanes and/or roads. As discussed in Section 4.11, *Transportation*, construction activities within the public right-of-way would result in potentially significant transportation impacts that could temporarily interfere with existing land uses. However, implementation of Mitigation Measure T-1 as detailed in Section 4.11, *Transportation*, would reduce these temporary impacts to a less-than-significant level. Construction of pipelines would also create temporary noise impacts that could temporarily interfere with existing land uses; however, as discussed in Section 4.10, *Noise*, implementation of Mitigation Measure N-1 would reduce impacts to a less-than-significant level. Agricultural irrigation distribution pipelines would be constructed from the ATF complex south across Arroyo Grande Creek. As discussed in Section 4.2, *Biological Resources*, and Section 4.8, *Hydrology and Water Quality*, the project would comply with all applicable local, state, and federal regulations governing construction activities in riparian and jurisdictional areas. Therefore, with mitigation incorporated, the water distribution pipelines would not result in significant environmental impacts from conflicts with applicable land use plans and policies.

ATF Complex

The ATF complex would be located on a site with a land use designation of Industrial and zoning designation of Industrial. The southwest corner of the ATF complex site falls within the Coastal Zone. The Industrial zoning designation applies to areas of the city appropriate for light, medium and heavy manufacturing and assembly, industrial parks, warehouses, commercial cannabis uses, and similar and compatible uses. The area is also appropriate for smaller service businesses such as contractor's yards, vehicle repair and storage, and material sales and supplies. Public and quasi-public facilities are allowable uses in the Industrial zone with approval of a use permit.

Production Well

The location of the new production well is not known at this time. However, this well would be located east of SR 1 in Grover Beach and therefore would not be located in Coastal Open Space, Coastal Golf Course, Coastal Pedestrian Beach, or Coastal Vehicular Beach zones. Public and quasi-public land uses are allowed with a use permit in all other zones in Grover Beach. As a result, it is likely that the new production well would not conflict with land use plans, policies, or regulations. Furthermore, the environmental impacts of this well in relation to land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect have been addressed and mitigated to a less-than-significant level as needed throughout this EIR. As described in Section 4.10, *Noise*, mitigation would reduce construction and operational noise impacts to avoid

conflicts with adjacent land uses. Therefore, with mitigation incorporated, the new production well would not result in significant environmental impacts from conflicts with applicable land use plans and policies.

Mitigation Measures

Implementation of Mitigation Measures CR-2(a) through CR-2(d), BIO-3(a) through BIO-3(c), HAZ-1(a), HAZ-1(b), N-1, and N-2 as detailed in Section 4.2, *Biological Resources*, Section 4.7, *Hazards and Hazardous Materials*, and Section 4.10, *Noise*, would be required.

Significance After Mitigation

Mitigation Measures CR-2(a) through CR-2(d) would address potential impacts to known and unknown archaeological resources through implementation of a Worker's Environmental Awareness Program, monitoring of ground disturbance by a qualified archaeologist and Native American monitor, evaluation of any unanticipated cultural resources and preparation of archaeological resource studies with implementation of additional mitigation, as needed, for project components with unknown locations. Mitigation Measures BIO-3(a) through BIO-3(c) would avoid, minimize, and compensate for direct and indirect impacts to state or federally protected wetlands from development of the project. Implementation of Mitigation Measures HAZ-1(a) and HAZ-1(b) would address potential release of hazardous materials into the environment and would reduce the potential for adverse impacts to adjacent land uses in the event of spills and/or accidental releases of hazardous materials. Mitigation Measures N-1 and N-2 would minimize noise conflicts with adjacent land uses. However, due to the close proximity of injection, monitoring, and production wells to existing residential land uses, construction noise impacts would be minimized but not completely mitigated through implementation of Mitigation Measure N-1. As a result, land use impacts related to the 24-hour well drilling activities would be significant and unavoidable.

c. Cumulative Impacts

The geographic scope of potential cumulative land use and planning impacts consists of Grover Beach and Oceano because these are the planning areas that encompass the project area where potential land use conflicts could occur. The cumulative projects listed in Table 3-1 in Section 3, *Environmental Setting*, would not result in cumulative land use conflicts because these projects would either be in conformity with the existing land use and zoning designations or would be required to undergo environmental review if they require land use and/or zoning amendments. As part of the environmental review process, mitigation measures would be identified to reduce any potential land use conflicts resulting from these projects. In addition, none of these projects propose development that would have the potential to physically divide an established community. Therefore, there would be no cumulative land use impacts.

4.10 Noise

This section identifies and evaluates issues related to noise in the context of the proposed project. The section discusses the physical and regulatory setting; the criteria used to determine the significance of environmental impacts; and potential impacts associated with implementation of the proposed project. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed. Therefore, this analysis evaluates the project's potential noise impacts in light of noise standards established by the County of San Luis Obispo and the City of Grover Beach.

4.10.1 Setting

a. Environmental Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs (e.g., the human ear). Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz (Kinsler et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dB; similarly, dividing the energy in half would result in a decrease of 3 dB (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (10.5 times the sound energy) (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result simply from the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to

a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce occupants' exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of sound level alone. The time of day when noise occurs and the duration of the noise are also important. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007). Normal conversational levels are in the 60 to 65 dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (DNL), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). Community noise can also be measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by DNL and CNEL usually differ by about 1 dBA. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 CNEL, while areas near arterial streets are in the 50 to 60+ CNEL range.

There is no precise way to convert a peak hour L_{eq} to DNL or CNEL - the relationship between the peak hour L_{eq} value and the DNL/CNEL value depends on the distribution of traffic volumes during the day, evening, and night. However, in urban areas near heavy traffic, the peak hour L_{eq} is typically 2 to 4 dBA lower than the daily DNL/CNEL. In less heavily developed areas, such as suburban areas, the peak hour L_{eq} is often roughly equal to the daily DNL/CNEL. For rural areas with little nighttime traffic, the peak hour L_{eq} will often be 3 to 4 dBA greater than the daily DNL/CNEL value (SWRCB 1999). The project site is located in a suburban area; therefore, the DNL/CNEL in the area would be approximately equal to the peak hour L_{eq}.

b. Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hertz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body is from a low of less than 1 Hertz up to a high of about 200 Hertz (Crocker 2007). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hertz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020). Table 4.10-1 summarizes the vibration damage threshold criteria recommended by Caltrans for structural damage to buildings.

Table 4.10-1 Vibration Damage Potential Threshold Criteria

Structure and Condition	Vibration Level (in/sec PPV) from Transient Sources	Vibration Damage Potential Threshold Criteria from Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

In addition to the potential for building damage, the human body also responds to vibration signals. However, unlike buildings, which are rigid, it takes some time for the human body to respond to vibration. In a sense, a building responds to the instantaneous movement while the human body responds to average vibration amplitude, which is measured as RMS. The averaging of the particle

generally results in the RMS conservatively being equivalent to 71 percent of the PPV. Thus, human annoyance usually results in a more restrictive vibration limit than structural damage limits.

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 4.10-2.

Table 4.10-2 Vibration Annoyance Potential Criteria

Human Response	Vibration Level (in/sec PPV) from Transient Sources	Vibration Level (in/sec PPV) from Continuous/Frequent Intermittent Sources
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

Source: Caltrans 2020

c. Sensitive Receivers

Table 4.10-3 summarizes noise-sensitive land uses as defined by the County of San Luis Obispo and the cities of Grover Beach, Arroyo Grande, and Pismo Beach.

Table 4.10-3 Sensitive Receivers

Land Use	County of San Luis Obispo	Grover Beach	Arroyo Grande	Pismo Beach
Residential Uses	X	X	X	X
Transient Lodging/Hotels/Motels/Bed and Breakfast Facilities	X	X	X	X
Hospitals and Nursing Homes	X	X	X	X
Public Assembly and Entertainment (Auditoriums/Theaters/Music Halls/Meeting Halls)	X	X	X	X
Churches	X	X	X	X
Schools	X	X	X	X
Libraries	X	X	X	X
Museums	X		X	X
Childcare Facilities			X	
Parks/Playgrounds/Outdoor Sports and Recreation	X	X	X	X
Office Buildings	X	X	X	X
Restaurants			X	

Sources: San Luis Obispo County Code Section 23.06.044; County of San Luis Obispo 1992; City of Grover Beach 1993; City of Arroyo Grande 2001; and Arroyo Grande Municipal Code Section 9.16.040

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as schools, churches, and hospitals. However, vibration-sensitive receivers also include fragile/historic-era buildings and buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studies or medical facilities with sensitive equipment).

d. Existing Noise Environment

The project area contains existing major noise sources, including Oceano County Airport, SR 1, U.S. Highway 101, industrial activities, and agricultural operations. Sensitive receivers within and near the project area include residential neighborhoods, schools, hotels, motels, nursing homes, libraries, museums, parks, playgrounds, public assembly and entertainment venues, office buildings, restaurants, and Arroyo Grande Community Hospital. Sensitive receivers nearest to the known locations of injection wells are the Coastal Dunes RV Park and Campground (in which three injection wells would be located) in Oceano and Grover Beach, residential neighborhoods in Oceano and Grover Beach, Oceano Inn in Oceano, Oceano Campground in Oceano, and Oceano Park in Oceano.

To characterize ambient sound levels at and near the project area, six 10-minute sound level measurements were conducted on December 20, 2019 near the five locations of the seven proposed injection wells. An Extech, Model 407780A, ANSI Type 2 integrating sound level meter was used to conduct the measurements. Figure 4.10-1 shows the noise measurement locations, and Table 4.10-4 summarizes the results of the noise measurements. Detailed sound level measurement data are included in Appendix H.

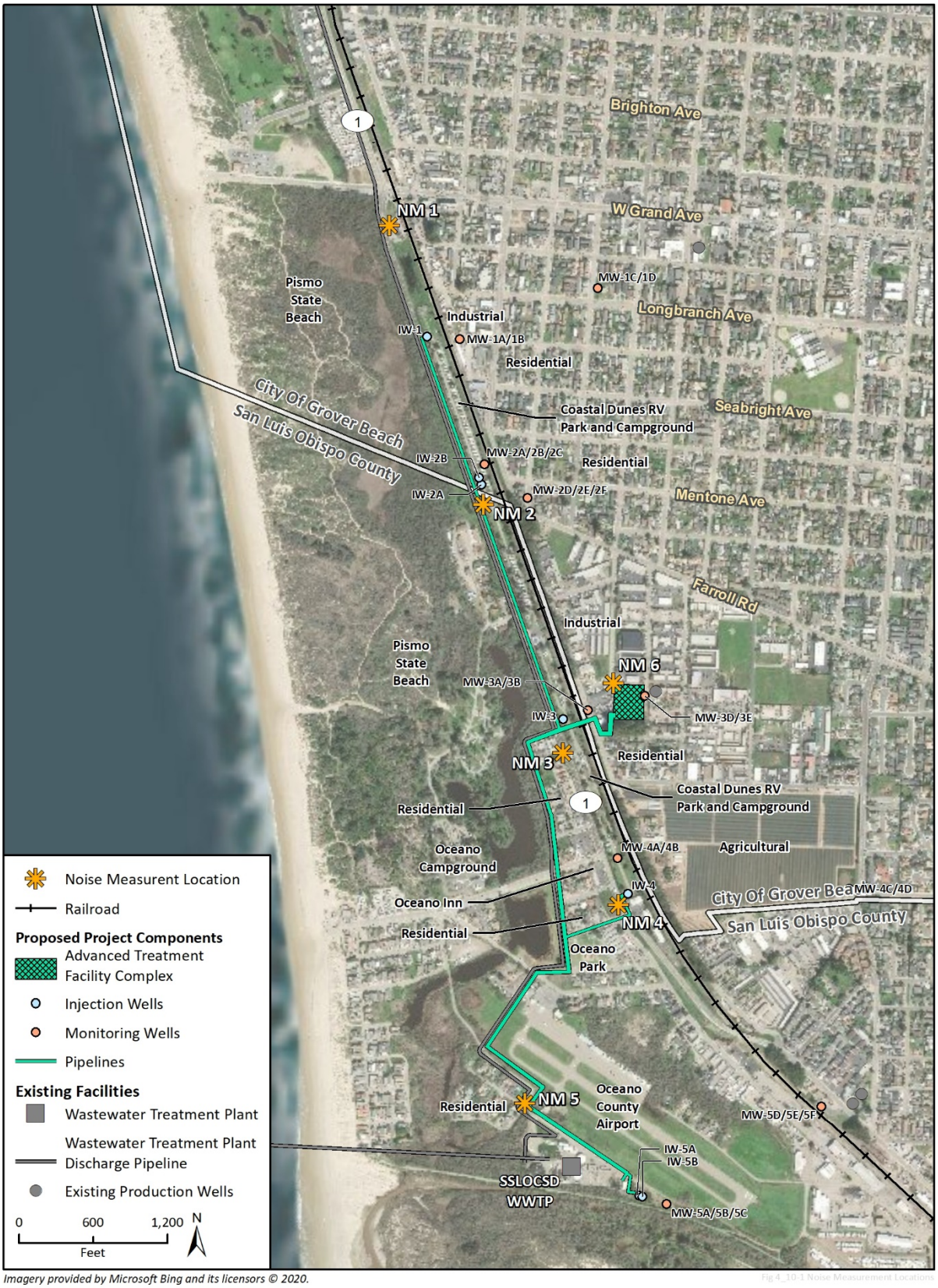
Table 4.10-4 Project Area Sound Level Monitoring Results

#	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source	L_{eq} (dBA)	L_{max} (dBA)
1	Northernmost portion of Coastal Dunes RV Park and Campground (near location of IW-1) (Grover Beach)	1:49 – 1:59 p.m.	120 feet to centerline of SR 1	67	82
2	Coastal Dunes RV Park and Campground (near locations of IW-2A and IW-2B) (Oceano)	1:25 – 1:35 p.m.	100 feet to centerline of SR 1	73	84
3	Southbound lane of SR 1 between Coolidge Drive and Harding Drive (near location of IW-3) (Oceano)	12:44 – 12:54 p.m.	70 feet to centerline of SR 1	67	78
4	Southbound lane of SR 1 between Truman Drive and Pershing Drive (near location of IW-4) (Oceano)	12:18 – 12:28 p.m.	60 feet to centerline of SR 1	67	85
5	1600 Aloha Place (near locations of IW-5A and IW-5B) (Oceano)	11:43 a.m. – 12:43 p.m.	25 feet to centerline of Aloha Place	47	56
6	980 Huber Street (near location of ATF complex) (Grover Beach)	10:31 – 10:41 a.m.	1,075 feet to Farroll Road	45	50

L_{eq} = equivalent noise level; dBA = A-weighted decibel; L_{max} = maximum instantaneous noise level; IW = injection well; ATF = advanced treatment facility; SR = State Route

See Appendix H for noise monitoring data. See Figure 4.10-1 for noise measurement locations.

Figure 4.10-1 Noise Measurement Locations



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e. Regulatory Setting

State

California Government Code Section 65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure.

Local

Project components would be in Oceano in unincorporated San Luis Obispo County and the city of Grover Beach. Therefore, this analysis evaluates the project's potential noise impacts considering noise standards established by the County of San Luis Obispo and the City of Grover Beach. The following subsections summarize local policies and regulations related to noise that would be applicable to the proposed project.

General Plans

COUNTY OF SAN LUIS OBISPO GENERAL PLAN NOISE ELEMENT

Goal 1. To protect the residents of San Luis Obispo County from the harmful and annoying effects of exposure to excessive noise.

Goal 3. To preserve the tranquility of residential areas by preventing the encroachment of noise-producing uses.

Goal 4. To educate the residents of San Luis Obispo County concerning the effects of exposure to excessive noise and the methods available for minimizing such exposure.

Goal 5. To avoid or reduce noise impacts through site planning and project design, giving second preference to the use of noise barriers and/or structural modifications to buildings containing noise-sensitive land uses.

Policy 3.3.5. Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated as follows and shall be the responsibility of the developer of the stationary noise source:

a. Noise from agricultural operations conducted in accordance with accepted standards and practices is not required to be mitigated.
b. Noise levels shall be reduced to or below the noise level standards in Table 3-2 (reproduced herein as Table 4.10-5) where the stationary noise source will expose an existing noise-sensitive land use (which is listed in the Land Use Element as an allowable use within its existing land use category) to noise levels which exceed the standards in Table 3-2 (reproduced herein as Table 4.10-5). When the affected noise-sensitive land use is Outdoor Sports and Recreation, the noise level standards in Table 3-2 (reproduced herein as Table 4.10-5) shall be increased by 10 dB.
c. Noise levels shall be reduced to or below the noise level standards in Table 3-2 (reproduced herein as Table 4.10-5) where the stationary noise source will expose vacant land in the Agriculture, Rural Lands, Residential Rural, Residential Suburban, Residential Single-Family, Residential Multi-Family, Recreation, Office and Professional, and Commercial Retail land

use categories to noise levels which exceed the standards in Table 3-2 (reproduced herein as Table 4.10-5).

Table 4.10-5 Maximum Allowable Exposure – Stationary Noise Sources[1]

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)[2]
Hourly L_{eq} (dBA)	50	45
Maximum Noise Level (dBA)	70	65
Maximum Impulsive Noise Level (dBA)	65	60

L_{eq} = equivalent noise level; dBA = A-weighted decibel

Note: County of San Luis Obispo and the Cities of Grover Beach, Arroyo Grande, and Pismo Beach all include this table in the Noise Element of their General Plans as their stationary noise source standards. Accordingly, this table is only included once in this EIR.

[1] Noise level limits apply to the property line of the receiving use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receiver side of noise barriers or other property line noise mitigation measures.

[2] Applies only where the receiving land use operates or is occupied during nighttime hours.

Source: County of San Luis Obispo 1992 (Table 3-2); City of Grover Beach 1993 (Table 3); City of Arroyo Grande 2001 (Table N-2); and City of Pismo Beach 2014 (Table N-3)

CITY OF GROVER BEACH GENERAL PLAN NOISE ELEMENT

Goal 1. Protect Grover Beach citizens and visitors from harmful and annoying effects of excessive noise exposure.

Goal 3. Preserve residential area tranquility by preventing noise-producing uses from encroaching upon existing or planned noise-sensitive uses.

Goal 4. Educate citizens of the effects of excessive noise exposure and methods available for minimizing exposure to excessive noise.

Goal 5. Emphasize the reduction of noise impacts through careful site planning and project design, giving second preference to the use of sound barriers and/or structural modifications to buildings containing noise-sensitive land uses.

Policy 4.3.6. No new stationary noise sources shall be allowed if they increase the noise on lands designated for noise-sensitive uses to a level that exceeds the standards of Table 3 (reproduced herein as Table 4.10-5). This policy does not apply to noise levels associated with agricultural use.

Municipal Codes

SAN LUIS OBISPO COUNTY CODE

SLOCC Sections 23.06.040-062 contain the County's noise and vibration regulations for development in the Coastal Zone. SLOCC Sections 22.10.120 and 22.10.170 contain the County's noise and vibration standards for development outside the Coastal Zone. The SLOCC establishes the following noise and vibration standards for unincorporated San Luis Obispo County that would be applicable to the proposed project:

- **SLOCC Sections 22.10.120(A) and 23.06.042.** Provide the following exemptions to the noise standards:

  - Noise generated by construction activities provided that construction activities occur between the hours of 7:00 a.m. and 9:00 p.m. on Monday through Friday and between the hours of 8:00 a.m. and 5:00 p.m. on Saturday and Sunday;
  - Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities; and
  - Noise sources associated with the collection of waste or garbage from property devoted to land uses other than residential uses listed in Table O, Framework for Planning of the Land Use Element and Local Coastal Plan, for areas in the Coastal Zone and in SLOCC Section 22.06.030 for areas outside the Coastal Zone.[1]

- **SLOCC Sections 22.10.120(B) and 23.06.044.** Set exterior noise level standards for noise-sensitive uses (defined under Section 4.10.1[c], *Sensitive Receivers*). These exterior noise level standards are equivalent to the hourly equivalent sound level and maximum level standards contained in the San Luis Obispo County General Plan Noise Element, which are shown in Table 4.10-5. In the event the measured ambient noise level exceeds the applicable exterior noise level standard, the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB.
- **SLOCC Section 22.10.120(C) and 23.06.046.** Set interior noise level standards for residential uses, which are summarized in Table 4.10-6. In the event the measured ambient noise level exceeds the applicable interior noise level standard, the applicable standard shall be adjusted so as to equal the ambient noise level plus 1 dB.
- **SLOCC Sections 22.10.120(D)(1) and 23.06.048(a).** Specifies that noise levels from air conditioning and refrigeration systems shall not exceed 50 dBA $L_{eq(1h)}$ as measured at the property line of a noise-sensitive land use.
- **SLOCC Sections 22.10.170 and 23.06.060.** Establish vibration standards. Any land use conducted in or within one-half mile of an urban or village reserve line is to be operated to not produce detrimental earth-borne vibrations perceptible at the following points of determination:[2]
  - At or beyond any lot line of the lot for residential, office and professional, recreation, or commercial land uses; and/or
  - At or beyond the boundary of the industrial category for industrial land uses.

- **SLOCC Sections 22.10.170 and 23.06.062.** Exempts vibrations from construction, the demolition of structures, surface mining activities or geological exploration from SLOCC Sections 22.10.170 and 23.06.060, respectively, provided that such activities occur between 7:00 a.m. and 9:00 p.m.

[1] Residential land uses listed in Table O of the Framework for Planning of the Land Use Element and Local Coastal Plan include caretaker quarters, farm support quarters, home occupations, mobile home parks, mobile homes, multi-family dwellings, nursing and personal care, organizational houses, residential accessory uses, residential care, residential vacation rentals, single-family dwellings, supportive housing, temporary construction trailer parks, temporary dwellings, and transitional housing (County of San Luis Obispo 2018). Residential land uses listed in SLOCC Section 22.060.030 include all land uses in Table O in addition to accessory dwellings, small lot single family uses, and workforce housing subdivisions.

[2] An Urban Reserve Line (URL) is a boundary separating urban/suburban land uses and rural land uses, and a Village Reserve Line (VRL) is a boundary distinguishing developed areas from the surrounding rural countryside. URLs and VRLs are delineated in the San Luis Obispo County General Plan Land Use Element Frameworks for Planning (County of San Luis Obispo 2015 and 2018).

Table 4.10-6 County of San Luis Obispo Interior Noise Level Standards

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Hourly L_{eq} (dBA)	40	35
Maximum Noise Level (dBA)	60	55

L_{eq} = hourly equivalent noise level; dBA = A-weighted decibel

Source: SLOCC Sections 22.10.120(C) and 23.06.046

GROVER BEACH MUNICIPAL CODE

Article III, Chapter 1.01 of the GBMC establishes the following noise and vibration standards for Grover Beach that would be applicable to the proposed project:

- **GBMC Section 3120.1.** Prohibits the operation of equipment; performance of outside construction on buildings, structures, or other projects; and any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device, other than between the hours of 7:00 a.m. and 7:00 p.m., Mondays through Fridays inclusive, or between the hours of 8:00 a.m. through 5:00 p.m., Saturdays and Sundays, unless a permit is first obtained from the Community Development Director or his or her designee.
- **GBMC Section 3120.2.** Prohibits the creation of noise on streets, sidewalks, and public places adjacent to schools, hospitals, churches, and rest homes while they are in use that unreasonably interferes with the workings of the institution or disturbs or unduly annoys the occupants thereof, provided that conspicuous signs are displayed indicating the presence of a school, hospital, church, or a rest home.
- **GMBC Section 3120.8.** Sets exterior noise level limits, which are shown in Table 4.10-7. If the measurement location is on a boundary between two different zones, the noise level limit applicable to the lower noise zone plus 5 dBA shall apply.

Table 4.10-7 City of Grover Beach Exterior Noise Level Limits

	Daytime Level (dBA $L_{eq(1h)}$) (7:00 a.m. – 10:00 p.m.)	Nighttime Level (dBA $L_{eq(1h)}$) (10:00 p.m. – 7:00 a.m.)
Residential	60	55
Commercial	65	60

dBA = A-weighted decibel; $L_{eq(1h)}$ = hourly equivalent noise level

Note: Measured at the property line of the noise-sensitive land use.

Source: GBMC Section 3120.8, Table 1

- **GBMC Section 3120.9.** Establishes interior noise limits for residential dwellings as 45 dBA $L_{eq(1h)}$ from 7:00 a.m. to 10:00 p.m. and 40 dBA $L_{eq(1h)}$ from 10:00 p.m. to 7:00 a.m., as measured on the interior of the affected residential use.
- **GBMC Section 3120.10(B)(3)**. Prohibits loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials or similar objects between the hours of 10:00 p.m. and 7:00 a.m. daily in such a manner as to cause a noise disturbance.
- **GBMC Section 3120.10(B)(4)**. Sets noise standards for construction and demolition activities. As stated therein, noise generated by construction and demolition activities between the hours of 10:00 p.m. and 7:00 a.m. is considered a noise disturbance unless an exception has been issued by the noise control officer. This section also states that where technically and economically

feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed 75 dBA $L_{eq(1h)}$ in residential areas and 85 dBA $L_{eq(1h)}$ in commercial areas from 7:00 a.m. to 10:00 p.m. For construction activities between 10:00 p.m. and 7:00 a.m., an exception permit must be issued.

- **GBMC Section 3120.10(B)(6)**. Sets noise standards for stationary equipment (operating for periods of 10 days or more), as shown in Table 4.10-8. All mobile or stationary internal combustion engine powered equipment or machinery shall be equipped with suitable exhaust and air-take silencers in proper working order.

Table 4.10-8 City of Grover Beach Stationary Equipment Noise Standards

	Daytime (dBA $L_{eq(1h)}$) (7:00 a.m. – 10:00 p.m.)	Nighttime (dBA $L_{eq(1h)}$) (10:00 p.m. – 7:00 a.m.)
Single-Family Residential	60	Exception Permit
Multi-Family Residential	65	Exception Permit
Mixed Use Residential/Commercial	70	Exception Permit

dBA = A-weighted decibel; $L_{eq(1h)}$ = hourly equivalent noise level

Note: Measured at the property line of the noise-sensitive land use.

Source: GBMC Section 3120.10(B)(6)

- **GBMC Section 3.120.10(B)(7).** Prohibits operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at 150 feet from the source if on a public space or public right-of-way.
- **GBMC Section 3210.11 (D-E).** Provides exemptions from the noise standards for noise sources associated with work performed by the City or private or public utilities in the maintenance or modification of City or public utility facilities and for noise sources associated with the collection of waste or garbage.

4.10.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at noise-sensitive receivers within and near the project area. The construction schedules and equipment lists for each of the three major project components (i.e., injection/monitoring/production wells, water distribution/agricultural irrigation pipelines, and ATF complex) were provided by Water Systems Consulting (the project engineer).

RCNM provides reference noise levels for standard construction equipment, with an attenuation rate of 6 dBA per doubling of distance. However, reference noise levels for the drill rig were sourced from the *Colton Narrows Noise Impact Modeling Report*, which was prepared for a similar project, in order to provide a more accurate estimate of noise generated by well drilling activities (Behren and

Associates, Inc. 2017). Reference noise levels for the drill rig are shown in Table 4.10-9. Because RCNM does not allow users to input custom L_{eq} data, construction noise levels for well drilling/installation activities were estimated outside of RCNM by logarithmically summing noise levels generated by each piece of equipment and applying a standard distance attenuation factor of 6 dBA per doubling of distance.

Table 4.10-9 Drill Rig Equipment Sound Levels

Equipment	Sound Power Level (dBA L_w)	Hourly Sound Pressure Level at 50 Feet (dBA L_{eq})
Drill Rig	113.7[1]	79.0[2]

dBA = A-weighted decibel; L_w = sound power level; L_{eq} = steady-state hourly equivalent noise level

[1] Behrens and Associates, Inc. 2017. Colton Narrows Noise Impact Modeling Report. September 1, 2017.

[2] Calculated using the sound power level calculator available at: http://www.sengpielaudio.com/calculator-soundpower.htm

For construction noise assessment, construction equipment can be considered to operate in two modes: stationary and mobile. As a rule, stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Mobile equipment, such as bulldozers, graders, and loaders, move around the construction site with power applied in cyclic fashion (FTA 2018). Noise impacts from stationary equipment are assessed from the center of the equipment, while noise impacts from mobile construction equipment are assessed from the center of the equipment activity area (e.g., construction site). Construction would not require any blasting or pile driving. It is assumed that diesel engines would power all construction equipment. RCNM calculations are included in Appendix H.

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle, or percent of operational time, of the activity to determine the L_{eq} of the operation (FTA 2018).

Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some will have higher continuous noise levels than others, and some may have higher instantaneous noise levels. The maximum hourly L_{eq} of each phase is determined by combining the L_{eq} contributions from each piece of equipment used in that phase (FTA 2018).

Given the relatively small scale of construction activities for each of the major project components (i.e., injection/monitoring/production wells, water distribution/agricultural irrigation pipelines, and ATF complex) and site limitations, it was assumed that only three pieces of mobile construction equipment and all pieces of stationary equipment would be operating simultaneously at any given site for those phases that would require more than three pieces of equipment. To provide a conservative estimate of impacts, the three loudest pieces of mobile equipment for each phase were modeled. In addition, because the exact timing of construction activities is unknown at this time, it was conservatively assumed that daytime project construction activities would be occurring simultaneously for all major project components (i.e., injection/monitoring/production wells, water distribution/agricultural irrigation pipelines, and ATF complex) at any given time. In addition, based on information provided by Water Systems Consulting about anticipated construction phasing, it was assumed that up to two injection/production wells and their associated monitoring wells would be constructed simultaneously. Therefore, up to four project-related construction sites would be

active at any given time. Due to the dynamic nature of construction, maximum hourly noise levels were calculated from the center of each site. Modeled construction noise levels from each of the three major project components are summarized in Table 4.10-10 at a distance of 50 feet.

Table 4.10-10 Construction Noise Levels by Phase

Construction Phase	Equipment	Estimated Noise Levels at 50 Feet dBA L_{eq}	Estimated Noise Levels at 50 Feet dBA L_{max}[1]
Injection/Monitoring/ Production Wells			
Site Preparation	Backhoe	74	78
Outfall Connection	Excavator, Backhoe	78	81
Well Drilling/ Installation[2]	Drill Rig, Generators (4), Air Compressor	85	84
Site Restoration	Forklift, Backhoe	75	78
Water Distribution/Agricultural Irrigation Pipelines			
Pavement Cutting	Concrete/Industrial Saw, Backhoe, Front End Loader	84	90
Excavation/Shoring	Excavator, Front End Loader	79	81
Open Trench Installation	Excavator, Front End Loader, Roller	79	80
Horizontal Directional Drilling/Augur Boring Installation	Backhoe, Drill Rig Truck, Boring Jack Power Unit, Pump, Generators (2)	85	83
Paving	Paver, Roller, Off-Highway Truck	78	80
Advanced Treatment Facility Complex			
Site Preparation	Forklift, Grader, Backhoe	82	85
Grading	Grader, Dozer, Scraper	84	85
Building Construction	Air Compressors (3), Excavator, Front End Loader, Compactor	83	83
Paving	Paver, Backhoe, Roller	78	80
Architectural Coating	Air Compressor	74	78

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level; ATF = advanced treatment facility; RCNM = Roadway Construction Noise Model

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Noise levels from well drilling activities were calculated outside of RCNM using hourly L_{eq} estimates from RCNM for the generators and compressor and the hourly L_{eq} estimate from the *Colton Narrows Noise Impact Modeling Report* for the drill rig in order to provide a more accurate estimate of construction noise levels during this phase. However, because the *Colton Narrows Noise Impact Modeling Report* does not include an L_{max} value for the drill rig, the L_{max} value is sourced from RCNM for "auger drill rig," which is a similar piece of equipment (Behrens and Associates 2017; FHWA 2006).

Source: FHWA 2006

See Appendix H for RCNM worksheets.

Construction noise levels are evaluated at the nearest sensitive receivers within 750 feet of project construction sites. Noise impacts at other sensitive receivers would be less than those experienced by the nearest sensitive receivers. Furthermore, at receivers located at distances greater than 750 feet, construction noise levels would be substantially attenuated by intervening development and topography or would be obscured by noise sources closer to these receivers.

As discussed in Section 2, *Project Description*, the City determined construction of IW-4 and its associated monitoring well to be categorically exempt from CEQA under CEQA Guidelines Section 15306. Therefore, the construction impacts of IW-4 and its associated monitoring well are not included in this analysis.

Vibration

The proposed project does not include any substantial vibration sources associated with operation. Accordingly, construction activities have the greatest potential to generate groundborne vibration affecting nearby receivers, especially during site preparation and grading of the project site. The greatest vibratory sources during construction would be bulldozers, drill rigs, loaded trucks, vibratory rollers, and jackhammers. Neither blasting nor pile driving would be required for construction of the proposed project. Construction vibration estimates are based on vibration levels and equations developed by Caltrans and the FTA (Caltrans 2020; FTA 2018). Table 4.10-11 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

Table 4.10-11 Vibration Levels Measured during Construction Activities

Equipment	PPV at 25 feet (in/sec)
Large bulldozer	0.089
Small bulldozer	0.003
Drill rig[1]	0.089
Loaded trucks	0.076
Vibratory Roller	0.21
Jackhammer	0.035

PPV = peak particle velocity; in/sec = inches per second

[1] Vibration levels from caisson drilling were used as a proxy for well drilling.

Source: FTA 2018

On-Site Operational Noise

Operational noise from the proposed project may be audible at adjacent properties. Potential sources of noise associated with the project include the pump station; heating, ventilation, and air conditioning (HVAC) equipment; and treatment equipment inside the ATF complex, such as reverse osmosis pumps and blowers. Because the exact specifications of equipment are unknown, this analysis includes a general discussion of the project's potential to exceed the thresholds of significance for operational noise impacts.

Roadway Noise

Project-related traffic would include daily employee trips to and from the ATF complex, weekly injection well maintenance trips, biweekly chemical deliveries, and semiannual pipeline inspection

trips. The ATF complex would employ approximately 15 employees; therefore, approximately 30 one-way employee trips would occur per day. Assuming the weekly injection well maintenance trip, biweekly chemical delivery trip, and semiannual pipeline inspection trip occur on the same day, maximum daily project-related traffic volumes would be approximately 36 one-way trips (30 + 2 + 2 + 2). Project-related traffic is compared to existing traffic volumes to determine whether project-related traffic would result in a significant increase in ambient roadway noise levels.

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a noise impact from the project would be significant if the project would result in:

- A substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- The generation of excessive groundborne vibration or groundborne noise levels
- For a project located within the vicinity of a private airstrip or 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, the exposure of people residing or working in the project area to excessive noise levels

Construction Noise

Project components would be located in Grover Beach and unincorporated San Luis Obispo County. Construction activities in Grover Breach and unincorporated San Luis Obispo County occurring during the specified allowable hours of construction are exempt from local noise standards per SLOCC Section 23.06.042 and GBMC Section 3210.10(B)(4). However, even though construction activities would be exempt from local noise standards, construction noise generated during these hours could still result in a substantial temporary increase in ambient noise levels in the vicinity of the project area as defined by CEQA. Therefore, for purposes of analyzing impacts from this project, the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) criteria will be used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period (FTA 2018).

Construction of the injection, monitoring, and production wells would require 24-hour drilling activities. These specific construction activities would therefore be subject to the City of Grover Beach and County of San Luis Obispo noise standards because they would occur outside the exempt hours of construction. The nighttime noise impacts of 24-hour construction activities were evaluated using the noise level standards established by the jurisdiction in which the project components would be located. For project components in unincorporated San Luis Obispo County, the nighttime exterior and interior noise level standards shown in Table 4.10-5 and Table 4.10-6 are utilized as thresholds of significance for nighttime construction noise impacts. For project components in Grover Beach, the nighttime exterior noise level limits in Table 4.10-7 and the interior noise level limits in GBMC Section 3120.9 are utilized as thresholds of significance for nighttime construction noise impacts.

Operational Noise

Operational noise impacts would be potentially significant if operational noise levels exceeded the applicable standards for each jurisdiction in which the project is located. Noise-generating

stationary equipment associated with the proposed project would be located at the ATF complex in Grover Beach. Therefore, the exterior noise level limits in Table 4.10-7, stationary equipment noise standards in Table 4.10-8, and the interior noise level limits in GBMC Section 3120.9 are used as thresholds of significance to evaluate operational noise impacts to sensitive receivers.[3]

Roadway Noise

As detailed in the Section 4.7.1(a), *Environmental Noise*, the average healthy ear can barely perceive an increase of 3 dBA in noise levels. Therefore, this analysis utilizes the level of perception (3 dBA) to determine if roadway noise would result in a significant impact to sensitive receivers located within and adjacent to the project area. As discussed in the Section 4.7.1(a), *Environmental Noise*, a doubling of the energy of a noise source, such as doubling of traffic volume, would be required to increase the noise level by 3 dBA. Therefore, if the proposed project would double the traffic volume on a given roadway, traffic generated by the project would result in a 3 dBA increase in ambient noise levels and would result in a significant impact related to roadway noise.

Vibration

The County of San Luis Obispo and the City of Grover Beach have adopted vibration standards. SLOCC Sections 22.10.170 and 23.06.062 exempt vibrations from construction activities occurring during daytime hours. Therefore, the vibration standard in GBMC Section 3.120.10(B)(7), which is discussed in Section 4.10.1(e), *Regulatory Setting*, is used to evaluate project-related daytime vibration impacts. For nighttime vibration impacts, the vibration standards in SLOCC Section 22.10.120(d) and 23.06.060 and GBMC Section 3.120.10(B)(7), which are equivalent, are used to evaluate project impacts. Therefore, vibration impacts would be significant if vibration is perceptible beyond the property boundary of the source if on private property or at 150 feet from the source if on a public space or public right-of-way. As shown in Table 4.10-2 in Section 4.6.1(b), *Groundborne Vibration*, a vibration level of 0.25 in/sec PPV is the approximate dividing line between barely perceptible and distinctly perceptible for transient vibration sources, such as construction equipment. The proposed project would be constructed entirely on municipally-owned properties or within the public right-of-way. Therefore, the significance threshold for construction vibration impacts related to human annoyance is 0.25 in/sec PPV at 150 feet. In addition, based on the Caltrans criteria for vibration impacts to structures shown in Table 4.10-1, construction vibration impacts would be significant if vibration levels exceed 0.5 in/sec PPV, which is the threshold at which damage may occur to historic and older residential structures.

[3] Per GBMC Section 3120.10(B)(6), any stationary noise source that operates between the hours of 10:00 p.m. and 7:00 a.m. is required to obtain an Exception Permit.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact N-1 **PROJECT CONSTRUCTION WOULD GENERATE SUBSTANTIAL TEMPORARY INCREASES IN AMBIENT NOISE LEVELS IN THE VICINITY OF PROJECT COMPONENTS IN EXCESS OF LOCAL STANDARDS DURING PROJECT CONSTRUCTION. THEREFORE, IMPLEMENTATION OF MITIGATION MEASURE N-1 WOULD BE REQUIRED. ALTHOUGH MITIGATION IS AVAILABLE TO ADDRESS THIS IMPACT, IT MAY NOT BE FEASIBLE TO REDUCE ALL CONSTRUCTION NOISE IMPACTS BELOW THE APPLICABLE THRESHOLDS. THEREFORE, CONSTRUCTION NOISE IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

Daytime Construction Noise

As detailed in the following subsections, daytime construction activities associated with construction of MW-1C/1D and MW-2D/2E/2F would exceed the daytime construction noise threshold of 80 dBA L_{eq} at the nearest sensitive receivers during all construction phases, thereby resulting in a substantial temporary increase in ambient noise levels. Impacts would be potentially significant, and implementation of Mitigation Measure N-1, which includes construction noise reduction measures, would be required to reduce impacts to a less-than-significant level. Daytime construction noise levels for all other project components would not exceed the threshold at the nearest sensitive receivers; therefore, daytime construction impacts would be less than significant for these project components.

Injection, Monitoring, and Production Wells

Table 4.10-12 summarizes daytime well construction noise levels at the nearest sensitive receivers for the injection and monitoring well locations, which are all single-family or multi-family residences. As shown therein, daytime project construction activities for MW-1C/1D and MW-2D/2E/2F would exceed the daytime construction noise threshold of 80 dBA L_{eq} at the nearest sensitive receivers during all construction phases.

The location of the production well is unknown at this time. However, it is possible that the production well would be located within 50 feet of sensitive receivers. At this distance, construction noise levels would range from approximately 74 to 85 dBA L_{eq} (see Table 4.10-10), which could exceed the daytime construction noise threshold of 80 dBA L_{eq}.

Table 4.10-12 Daytime Well Construction Noise Levels at Nearest Sensitive Receivers (dBA L_{eq})

Construction Phase	Equipment	MW-1C/1D and MW-2D/2E/2F (Residences 15 Feet Away)	IW-3, MW-2A/2B/2C, MW-4C/4D, and MW-5D/5E/5F (Residences 150 Feet Away)	IW-2A and IW-2B (Residences 200 Feet to the East)	MW-3A/3B and MW-3D/3E (Residences 225 Feet Away)	MW-1A/1B (Residences 350 Feet Away)	IW-1 (Residences 600 Feet Away)	IW-5A, IW-5B, and MW-5A/5B/5C (Residences 700 Feet Away)
Site Preparation	Backhoe	85	65	62	61	57	52	51
Outfall Connection	Excavator, Backhoe	n/a	69	66	n/a	n/a	56	55
Well Drilling/ Installation	Drill Rig, Generators (4), Air Compressor	96	76	73	72	68	63	62
Site Restoration	Forklift, Backhoe	86	66	63	62	58	53	52
Threshold		80	80	80	80	80	80	80
Threshold Exceeded?		**Yes**	No	No	No	No	No	No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 for construction noise levels by phase at a distance of 50 feet.

Water Distribution and Agricultural Irrigation Pipelines

Water distribution pipeline alignments would be located within 25 feet of sensitive receivers in some areas. The exact locations of the agricultural irrigation pipeline alignments are unknown at this time; however, it is likely that portions of these alignments will also be within 25 feet of sensitive residential receivers. Unlike well construction, which would be centered at single locations, pipeline construction activities would be mobile and would be constantly moving in a linear path along the pipeline alignment. Construction equipment would travel throughout the work areas, which would be a minimum of 150 feet in length by approximately 20 feet in width. Therefore, the average distance of sensitive receivers from mobile equipment on any given day would be approximately 151 feet.[4]

Table 4.10-13 summarizes daytime pipeline construction noise levels at the nearest existing and planned sensitive receivers, which are all single-family residences. As shown therein, pipeline construction activities would not exceed the daytime construction noise threshold of 80 dBA L_{eq} at the nearest sensitive receivers.

Table 4.10-13 Pipeline Construction Noise Levels at Nearest Sensitive Receivers

Construction Phase	Equipment	Estimated Noise Levels at 151 Feet (dBA L_{eq})[1]
Pavement Cutting	Concrete/Industrial Saw, Backhoe, Front End Loader	75
Excavation/Shoring	Excavator, Front End Loader	70
Open Trench Installation	Excavator, Front End Loader, Roller	70
Horizontal Directional Drilling/Augur Boring Installation	Backhoe, Drill Rig Truck, Boring Jack Power Unit, Pump, Generators (2)	76
Paving	Paver, Roller, Off-Highway Truck	64
Threshold		80
Threshold Exceeded?		**No**

Advanced Treatment Facility Complex

Existing sensitive receivers nearest to the ATF complex location are residences located along Calvin Court approximately 250 feet southeast of the center of the construction site. In addition, undeveloped properties approximately 145 feet south of the center of the construction site are zoned for Coastal Low Density Residential Use. It is unknown at this time when the ATF complex would be constructed; as such, it is possible that these parcels may be developed with residences prior to construction of the ATF complex. Therefore, this analysis conservatively considers construction noise impacts to these planned receivers as well.

Table 4.10-14 summarizes ATF complex construction noise levels at the nearest existing and planned sensitive receivers. As shown therein, ATF complex construction activities would not exceed the daytime construction noise threshold of 80 dBA L_{eq} at the nearest existing and planned sensitive receivers.

[4] The Pythagorean theorem was used to determine the average distance of construction equipment from any given receiver along the 150-foot-long work area as follows: $\sqrt{(150^2 + 20^2)} = 151$ feet

Table 4.10-14 ATF Complex Construction Noise Levels at Nearest Sensitive Receivers

Construction Phase	Equipment	Planned Residences 145 Feet to the South (dBA L_{eq})	Existing Residences 250 Feet to the Southeast (dBA L_{eq})
Site Preparation	Forklift, Grader, Backhoe	73	68
Grading	Grader, Dozer, Scraper	75	70
Building Construction	Air Compressors (3), Excavator, Front End Loader, Compactor	74	69
Paving	Paver, Backhoe, Roller	69	64
Architectural Coating	Air Compressor	65	60
Threshold		80	80
Threshold Exceeded?		**No**	**No**

Nighttime Construction Noise

Nighttime construction would only be required for 24-hour well drilling activities, which would occur over the course of three weeks for each injection, monitoring, and production well. Noise-sensitive receivers during nighttime hours include residential land uses, transient lodging such as hotels and motels, and recreational land uses with overnight accommodations such as campgrounds. Table 4.10-15 and Table 4.10-16 summarize nighttime exterior construction noise levels during well drilling activities at the nearest sensitive receivers for injection wells and monitoring wells, respectively. As shown therein, nighttime exterior construction noise levels at the nearest sensitive receivers would exceed the nighttime exterior thresholds for all well locations.

The location of the production well is unknown at this time. However, it is possible that the production well would be located within 50 feet of nighttime sensitive receivers, at which distance nighttime construction noise levels would be approximately 85 dBA L_{eq} and 84 dBA L_{max} (see Table 4.10-10). These noise levels would exceed the nighttime exterior noise level threshold of 55 dBA L_{eq} for project components in Grover Beach.

As discussed in Section 4.10.1, *Environmental Noise*, modern building construction generally provides an exterior-to-interior noise level reduction of at least 20 dBA with closed windows (FHWA 2011). Therefore, exterior construction noise levels greater than 55 dBA L_{eq} and 75 dBA L_{max} would potentially result in an exceedance of the nighttime interior noise level thresholds of 35 dBA L_{eq} and 55 dBA L_{max} for project components in unincorporated San Luis Obispo County. As shown in Table 4.10-15 and Table 4.10-16, nighttime exterior construction noise levels for project components in unincorporated San Luis Obispo County at the nearest sensitive receivers would exceed 55 dBA L_{eq} for all well locations and 75 dBA L_{max} at all well locations except IW-5A, IW-5B, and MW-5A/5B/5C. Exterior construction noise levels greater than 60 dBA L_{eq} would potentially result in an exceedance of the nighttime interior noise level threshold of 40 dBA L_{eq} for project components in Grover Beach. As shown in Table 4.10-15 and Table 4.10-16, nighttime exterior construction noise levels for project components in Grover Beach would exceed 60 dBA L_{eq} at the nearest sensitive receivers for all well locations in Grover Beach. As a result, nighttime well construction activities would exceed the nighttime interior noise level thresholds.

occur simultaneously, construction noise levels could combine to generate even higher noise levels than those for each individual well. Therefore, given the above analysis, nighttime construction activities would result in a substantial temporary increase in ambient noise levels, and impacts would be potentially significant. Implementation of Mitigation Measure N-1, which includes construction noise reduction measures, would be required to reduce impacts to the extent feasible. However, implementation of Mitigation Measure N-1 in all cases may not be feasible and therefore may not reduce construction noise impacts below the specified thresholds. Therefore, construction noise impacts would be significant and unavoidable.

As discussed in Section 4.2, *Biological Resources*, construction noise may result in potentially significant indirect impacts to normal breeding and dispersal patterns of California red-legged frog (CRLF), nest abandonment and failure for nesting birds in the vicinity of construction sites, and other adverse impacts to special status species near project components with unknown locations. Therefore, implementation of Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(e), and BIO-1(j), which include avoidance and minimization measures for special status species, would be required to reduce indirect construction noise impacts to wildlife a less-than-significant level.

Table 4.10-15 Nighttime Well Construction Noise Levels at Nearest Sensitive Receivers – Injection Wells

Construction Phase	Equipment	IW-2A and IW-2B (Campsites 50 Feet Away)	IW-3 (Campsites 50 Feet Away)	IW-1 (Campsites 80 Feet Away)	IW-5A and IW-5B (Residences 700 Feet Away)
Well Drilling/ Installation	Drill Rig, Generators (4), Air Compressor	96 dBA L_{eq}	85 dBA L_{eq} 84 dBA L_{max}[1]	81 dBA L_{eq}	62 dBA L_{eq} 62 dBA L_{max}
Thresholds[2]		55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}
Threshold Exceeded?		**Yes**	**Yes** **Yes**	**Yes**	**Yes** No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] See Table 4.10-5 and Table 4.10-7. Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County or Grover Beach.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 for construction noise levels by phase at 50 feet.

Table 4.10-16 Nighttime Well Construction Noise Levels at Nearest Sensitive Receivers – Monitoring Wells

Construction Phase	Equipment	MW-1C/1D and MW-2D/2E/2F (Residences 15 Feet Away)	MW-2A/2B/2C (Campsites 50 Feet Away)	MW-1A/1B and MW-3A/3B (Campsites 130 Feet Away)	MW-4C/4D (Residences 150 Feet Away)	MW-5D/5E/5F (Residences 150 Feet Away)	MW-3D/3E (Residences 225 Feet Away)	MW-5A/5B/5C (Residences 700 Feet Away)
Well Drilling/ Installation	Drill Rig, Generators (4), Air Compressor	96 dBA L_{eq}	85 dBA L_{eq}	77 dBA L_{eq}	76 dBA L_{eq}	76 dBA L_{eq} 75 dBA L_{max}[1]	72 dBA L_{eq}	62 dBA L_{eq} 61 dBA L_{max}[1]
Threshold[2]		55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}
Threshold Exceeded?		**Yes**	**Yes**	**Yes**	**Yes**	**Yes** **Yes**	**Yes**	**Yes** No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] See Table 4.10-5 and Table 4.10-7. Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County or Grover Beach.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 for construction noise levels by phase at 50 feet.

Mitigation Measures

In addition to Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(e), and BIO-1(j), detailed in Section 4.2, *Biological Resources*, the following mitigation measure would be required.

N-1 Construction Noise Reduction Measures

The following construction noise reduction measures shall be implemented during project construction activities:

- Well drilling activities for IW-1, IW-2A, IW-2B, IW-3, MW-1A/1B, MW-2A/2B/2C, and MW-3A/3B, shall be scheduled during the non-peak season for the Coastal Dunes RV Park and Campground to the extent practicable, as defined by the County of San Luis Obispo Parks and Recreation Department.
- Construction of individual injection, monitoring, and production wells located within 0.25 mile of each other shall be scheduled so as not to overlap to the extent practicable.
- Construction of the water distribution/agricultural irrigation pipelines and ATF complex shall be scheduled so as not to overlap with construction of the injection, monitoring, and production wells.
- Noise-generating construction activities associated with IW-5A, IW-5B, and MW-5A/5B/5C shall not occur on the same days as noise-generating construction activities for the SSLOCSD Wastewater Redundancy Project to the extent practicable.
- Whenever possible, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- The City shall coordinate with the County of San Luis Obispo Parks and Recreation Department to temporarily close all campsites within 200 feet of IW-1, IW-2A, IW-2B, IW-3, MW-1A/1B, MW-2A/2B/2C, and MW-3A/3B for the duration of 24-hour well drilling activities.
- The City shall provide temporary housing accommodation via hotel or other comparable accommodation for the duration of 24-hour well drilling activities for residents in Grover Beach within 100 feet of construction activity and for residents in unincorporated San Luis Obispo County within 175 feet of construction activity.
- All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers.
- During injection and monitoring well construction, all equipment, fixed or mobile, shall be operated with closed engine doors and shall be equipped with properly operating and maintained critical grade mufflers consistent with manufacturers' standards.
- During injection and monitoring well construction, the City's contractor(s) shall use portable sound enclosures for all generators and air compressors that provide at least a 10-dBA reduction in noise levels.
- During injection and monitoring well construction, the City's contractor(s) shall install temporary sound barriers of sufficient height and length to break the line-of-sight between the engines of heavy-duty equipment and nearby sensitive receivers. All temporary barriers shall be constructed of material with a minimum weight of two pounds per square foot and shall be continuous with no gaps or holes between panels or the ground. Sound blankets on individual pieces of construction equipment may also be used in place of temporary sound barriers and shall be of sufficient length to overlap each other and the ground surface. Temporary sound barriers and/or blankets shall be installed for the entire duration of the well drilling phase for

each injection and monitoring well. Temporary sound barriers shall meet the following specifications for each location:

- **IW-1 (Well Drilling)**. The barrier shall be at least 13 feet in height and shall be installed along the southern and eastern edges of the construction site. The barrier shall be at least 50 feet in length along the southern edge and at least 100 feet in length along the eastern edge. If sound blankets are used, they shall be a minimum STC rating of 9.
- **IW-2A and IW-2B (Well Drilling)**. The barrier shall be at least 13 feet in height and shall be installed along the northern, southern, and eastern edges of the construction sites. The barrier shall be at least 50 feet in length along the southern and northern edges and at least 100 feet in length along the eastern edge. If sound blankets are used, they shall be a minimum STC rating of 9.
- **IW-3 (Well Drilling)**. The barrier shall be at least 22 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides. If sound blankets are used, they shall be a minimum STC rating of 18.
- **IW-5A, IW-5B, and MW-5A/5B/5C (Well Drilling)**. The barrier shall be at least 13 feet in height and shall be installed along the western and northern edges of the construction sites. The barrier shall be at least 50 feet in length along the western edge and at least 100 feet in length along the northern edge. If sound blankets are used, they shall be a minimum STC rating of 8.
- **MW-1A/1B and MW-3A/3B (Well Drilling)**. The barrier shall be at least 13 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the southern and northern edges and at least 50 feet in length along the eastern and western edges. If sound blankets are used, they shall be a minimum STC rating of 9.
- **MW-1C/1D and MW-2D/2E/2F (Well Drilling)**. The barrier shall be at least 15 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the southern and northern edges and at least 50 feet in length along the eastern and western edges. If sound blankets are used, they shall be a minimum STC rating of 15.
- **MW-2A/2B/2C (Well Drilling)**. The barrier shall be at least 13 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides. If sound blankets are used, they shall be a minimum STC rating of 9.
- **MW-3D/3E (Well Drilling)**. The barrier shall be at least 12 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 50 feet in length along the southern and northern edges and at least 100 feet in length along the eastern and western edges. If sound blankets are used, they shall be a minimum STC rating of 7.
- **MW-4C/4D (Well Drilling)**. The barrier shall be at least 14 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides. If sound blankets are used, they shall be a minimum STC rating of 11.
- **MW-5D/5E/5F (Well Drilling)**. The barrier shall be at least 24 feet in height, surround all active heavy-duty equipment at the construction sites, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western side. If sound blankets are used, they shall be a minimum STC rating of 20.

- The City shall provide a non-automated telephone number for local residents to call to submit complaints associated with construction noise during all phases of construction. The City shall maintain a log of complaints and shall address complaints to minimize noise issues for neighbors.
- Upon selection of the location of the new production well, an acoustical analysis shall be prepared by a qualified professional to determine the construction noise reduction measures necessary to reduce daytime exterior construction noise levels to at or below 80 dBA L_{eq} at the nearest sensitive receivers and nighttime exterior construction noise levels to at or below 55 dBA L_{eq} at the nearest sensitive receivers. The acoustical analysis shall only evaluate the construction noise impacts of the new production well if proposed construction activities are located within 1,620 feet of sensitive receivers, as measured from the center of the construction site.

  The acoustical analysis shall include the following components:

  - Identification of the nearest noise-sensitive receivers to the location of the new production well;
  - Quantitative analysis of construction noise levels for the production well at the nearest noise-sensitive receivers; and
  - Identification of noise reduction measures that would achieve compliance with the aforementioned exterior daytime and nighttime noise standards. These measures may include, but would not be limited to, use of mufflers, portable sound enclosures, and temporary sound barriers and/or blankets.

The City or its contractor(s) shall implement all noise reduction measures identified in the acoustical analysis.

Significance After Mitigation

Implementation of Mitigation Measure N-1 would entail the use of several noise reduction measures, including mufflers and temporary sound barriers. Use of critical grade mufflers would reduce engine noise levels from mobile construction equipment by at least 10 dBA in comparison to industrial grade mufflers, and installation of portable sound enclosures for generators and air compressors would reduce noise levels by at least 10 dBA (Diesel Service & Supply 2019; Echo Barrier 2019).[5] Temporary sound barriers would reduce noise levels from well drilling activities by approximately 9 to 20 dBA, depending on the barrier height specified for each well location (see Appendix H for barrier calculations). As shown in Table 4.10-17, implementation of Mitigation Measure N-1 would reduce daytime construction noise levels during the site preparation, well drilling, and site restoration phases of construction for MW-1C/1D and MW-2D/2E/2F at the sensitive receivers nearest to the injection and monitoring wells below the daytime exterior noise thresholds. Therefore, daytime construction noise impacts related to site preparation, well drilling, and site restoration for the injection and monitoring wells would be reduced to a less-than-significant level.

[5] Portable sound enclosures are capable of reducing noise levels by up to 99 percent (Echo Barrier 2019). Mitigation Measure N-1 requires the use of enclosures that reduce noise levels by approximately 10 dBA, which would represent a 50 percent reduction in noise levels from these pieces of equipment.

Table 4.10-17 Mitigated Daytime Well Construction Noise Levels at Nearest Sensitive Receivers

Construction Phase	Equipment	MW-1C/1D and MW-2D/2E/2F (Residences 15 Feet Away) (dBA L_{eq})
Site Preparation[2]	Backhoe	75
Outfall Connection[2]	Excavator, Backhoe	n/a
Well Drilling/Installation[2, 3]	Drill Rig, Generators (4), Air Compressor	55
Site Restoration[2]	Forklift, Backhoe	76
Threshold		80
Threshold Exceeded?		No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Assumes use of critical grade mufflers on all construction equipment (10-dBA reduction).

[3] Assumes use of portable sound enclosures that provide a minimum 10-dBA reduction for generators and air compressors (10-dBA reduction) and installation of temporary sound barriers meeting the requirements of Mitigation Measure N-1 (20-dBA reduction).

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 for construction noise levels by phase at 50 feet.

In addition to mufflers, enclosures, and barriers, Mitigation Measure N-1 would require the closure of campsites within 200 feet of IW-1, IW-2A, IW-2B, IW-3, MW-1A/1B, MW-2A/2B/2C, and MW-3A/3B as well as the temporary relocation of residents in Grover Beach within 100 feet of construction activity in Grover Beach and residents in unincorporated San Luis Obispo County within 175 feet of construction activity during 24-hour well drilling activities to reduce daytime and nighttime noise impacts. Therefore, by closing the nearest campsites, the nearest noise-sensitive receivers would be located at greater distances, which would reduce noise impacts. As shown in Table 4.10-18 and Table 4.10-19 for the injection wells and monitoring wells, respectively, implementation of Mitigation Measure N-1 would reduce 24-hour well drilling noise levels at the nearest noise-sensitive receivers below the daytime and nighttime exterior noise thresholds. In addition, nighttime exterior noise levels for project components in unincorporated San Luis Obispo County would be reduced below 55 dBA L_{eq} and 75 dBA L_{max}, which would result in interior noise levels below the thresholds of 35 dBA L_{eq} and 55 dBA L_{max}, assuming an exterior-to-interior noise level reduction of 20 dBA with windows closed (FHWA 2011). Nighttime exterior noise levels for project components in Grover Beach would be reduced below 60 dBA L_{eq}, which would result in interior noise levels below the threshold of 40 dBA L_{eq}, assuming an exterior-to-interior noise level reduction of 20 dBA with windows closed (FHWA 2011).

Table 4.10-18 Mitigated Nighttime 24-Hour Well Drilling Noise Levels at Nearest Sensitive Receivers – Injection Wells

Construction Phase	Equipment	IW-2A and IW-2B (Campsites/ Residences 200 Feet Away)	IW-3 (Campsites 200 Feet Away)	IW-1 (Campsites 200 Feet Away)	IW-5A and IW-5B (Residences 700 Feet Away)
Well Drilling/ Installation[2]	Drill Rig, Generators (4), Air Compressor	55 dBA L_{eq}	45 dBA L_{eq} 44 dBA L_{max}[1]	55 dBA L_{eq}	45 dBA L_{eq} 44 dBA L_{max}[1]
Thresholds[3]		55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}
Threshold Exceeded?		No	No No	No	No No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Assumes use of critical grade mufflers on all construction equipment (10-dBA reduction), use of portable sound enclosures for stationary construction equipment (10-dBA reduction) and installation of temporary sound barriers meeting the requirements of Mitigation Measure N-1 (reduction varies by barrier).

[3] See Table 4.10-5 and Table 4.10-7. Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County or Grover Beach.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 for construction noise levels by phase at 50 feet.

Table 4.10-19 Nighttime Mitigated 24-Hour Well Drilling Noise Levels at Nearest Sensitive Receivers – Monitoring Wells

Construction Phase	Equipment	MW-1C/1D and MW-2D/2E/2F (Residences 85 Feet Away)	MW-2A/2B/2C (Campsites 200 Feet Away)	MW-1A/1B and MW-3A/3B (Campsites 200 Feet Away)	MW-4C/4D (Residences 150 Feet Away)	MW-5D/5E/5F (Residences 175 Feet Away)	MW-3D/3E (Residences 225 Feet Away)	MW-5A/5B/5C (Residences 700 Feet Away)
Well Drilling/ Installation[2]	Drill Rig, Generators (4), Air Compressor	55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	45 dBA L_{eq} 44 dBA L_{max}[1]	55 dBA L_{eq}	45 dBA L_{eq} 44 dBA L_{max}[1]
Thresholds[3]		55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}
Threshold Exceeded?		No	No	No	No	No No	No	No No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Assumes use of critical grade mufflers on all construction equipment (10-dBA reduction), use of portable sound enclosures for stationary construction equipment (10-dBA reduction) and installation of temporary sound barriers meeting the requirements of Mitigation Measure N-1 (reduction varies by barrier).

[3] See Table 4.10-5 and Table 4.10-7. Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County or Grover Beach.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 for construction noise levels by phase at a distance of 50 feet.

It is possible that the final well locations may shift within a 50-foot radius of their current locations during final engineering and/or during installation to account for subsurface conditions. As a result, the final well locations may be closer to sensitive receivers than analyzed herein such that the specified mitigation measures would not sufficiently reduce noise levels. Furthermore, residents in Grover Beach within 100 feet of well locations and residents in unincorporated San Luis Obispo County within 175 feet of well locations may voluntarily choose not to temporary relocate during 24-hour well drilling activities and would be exposed to a significant temporary increase in ambient noise levels in excess of the specified thresholds. Therefore, construction noise impacts would be minimized but not completely mitigated through implementation of Mitigation Measure N-1. As a result, construction noise impacts related to the 24-hour well drilling activities for the injection and monitoring wells would be significant and unavoidable.

Furthermore, implementation of Mitigation Measure N-1 would require preparation of an acoustical analysis for the new production well once its location is known to determine the specifications for noise reduction measures that would reduce construction noise levels for this project component to below the daytime and nighttime thresholds. If the new production well is located outside the distances specified in Mitigation Measure N-1, then construction noise levels would be below the thresholds without mitigation because receivers would be located far away enough such that construction noise levels would not exceed the thresholds.

If sensitive receivers are located within the distances specified in Mitigation Measure N-1 for the new production well, an acoustical analysis would be required, and recommendations, such as the following measures, would be required to be implemented to reduce construction noise levels below the thresholds. For example, the following measures could reduce noise levels generated by construction of the new production well to below the daytime and nighttime exterior noise level thresholds if sensitive receivers are located within 15 feet of the center of construction activities (i.e., worst-case scenario):

- Use of critical grade mufflers for all mobile construction equipment (10-dBA reduction);
- Use of portable sound enclosures that provide a minimum 10-dBA reduction for generators and compressors (10-dBA reduction);
- Installation of a temporary sound barrier that is 16 feet in height for 24-hour well drilling activities (14-dBA reduction; see Appendix H for barrier calculations); and
- Provide temporary housing accommodation via hotel or other comparable accommodation for residents within 100 feet of construction activity for the duration of 24-hour well drilling activities.

Table 4.10-20 summarizes mitigated construction noise levels for the new production well at a distance of 100 feet, assuming that all sensitive receivers within 100 feet of the well location are temporarily relocated. As shown therein, implementation of the measures identified above would reduce daytime construction noise levels below the daytime exterior construction noise threshold of 80 dBA L_{eq} for single-family residential properties. Furthermore, these measures would reduce nighttime construction noise levels below 55 dBA L_{eq}. In addition, nighttime exterior noise levels would be reduced below 60 dBA L_{eq}, which would result in interior noise levels below the threshold of 40 dBA L_{eq}, assuming an exterior-to-interior noise level reduction of 20 dBA with windows closed (FHWA 2011).

However, residents within 100 feet of the production well location may voluntarily choose not to temporary relocate during 24-hour well drilling activities and would be exposed to a significant

temporary increase in ambient noise levels in excess of the specified thresholds. Therefore, construction noise impacts would be minimized but not eliminated through implementation of Mitigation Measure N-1. As a result, construction noise impacts related to the production well would be significant and unavoidable.

Table 4.10-20 Mitigated Construction Noise Levels for the New Production Well

Construction Phase	Equipment	Estimated Noise Levels at 100 Feet (dBA L_{eq})
Production Well		
Site Preparation[2]	Backhoe	75
Well Drilling/Installation[2, 3]	Drill Rig, Generators (4), Air Compressor	55
Site Restoration[2]	Forklift, Backhoe	76
Threshold		80
Threshold Exceeded?		No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Assumes use of critical grade mufflers on all construction equipment (10-dBA reduction).

[3] Assumes use of portable sound enclosures that provide a minimum 10-dBA reduction for generators and compressors (10-dBA reduction), installation of a temporary sound barrier that is 16 feet in height (14-dBA reduction) during 24-hour well-drilling activities; and temporary relocation of all residences within 100 feet of the new production well during 24-hour well drilling activities.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 for construction noise levels by phase at a distance of 50 feet.

Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(e), and BIO-1(j) would require avoidance and minimization measures to reduce indirect construction noise impacts to special status species. Therefore, indirect construction noise impacts would be reduced to a less-than-significant level.

Impact N-2 Operation of the proposed project would potentially generate substantial permanent increases in ambient noise levels in the vicinity of the project in excess of local standards. Therefore, implementation of Mitigation Measure N-2 would be required. Impacts would be less than significant with mitigation incorporated.

The primary sources of long-term operational noise would be the pump station, HVAC equipment at the ATF complex, and treatment equipment inside the ATF complex. The injection/monitoring/production wells and water distribution/agricultural irrigation pipelines would not include noise-generating components. The pump station would be housed in a rectangular, cast-in-place concrete building; therefore, noise transmittal from pump operation would be limited to the pump station louvers. Based on reference noise level measurements taken at existing water pump stations in Montebello and Menlo Park, pump stations with one to two water pumps generate noise levels between approximately 41 to 51 dBA L_{eq} at 15 feet (see Appendix H for reference noise data). HVAC equipment would either be roof-mounted on the ATF complex or located at ground-level adjacent to the ATF complex. HVAC equipment is a continuous noise source, and noise levels can reach up to 70 dBA L_{eq} at a distance of 15 feet from the source (Illingworth & Rodkin, Inc. 2009). Therefore, conservatively assuming that HVAC equipment and the pump station

Rodkin, Inc. 2009). Therefore, conservatively assuming that HVAC equipment and the pump station are co-located, combined operational noise levels would be approximately 70 dBA L_{eq} at 15 feet.[6] In addition to these noise sources, noise-generating equipment inside the ATF complex, including reverse osmosis pumps and blowers, may be audible outside the ATF complex depending on building design.

Existing sensitive receivers nearest to the ATF complex location are residences located along Calvin Court approximately 60 feet southeast of the property boundary. In addition, undeveloped properties located adjacent to the ATF complex location to the south are zoned for Coastal Low Density Residential Use. It is unknown at this time if and when these parcels may be developed with residences; therefore, this analysis also considers operational noise impacts to these planned receivers. [7]

The exact design, site layout, and equipment specifications of the ATF complex are not known at this time. Therefore, it is not known whether the pump station, HVAC equipment, and ATF building would be sited at the ATF complex close to existing and planned sensitive receivers to the southeast and south, respectively. Depending on the design, site layout, and equipment at the ATF complex, operational noise levels may exceed the operational noise thresholds for sensitive land uses as shown in Table 4.10-7, Table 4.10-8, and GBMC Section 3120.9. Therefore, project operation would potentially generate a substantial permanent increase in ambient noise levels, and impacts would be potentially significant. Implementation of Mitigation Measure N-2, which requires preparation of an acoustical analysis upon completion of the initial ATF design, site layout, and equipment selection and implementation of noise attenuation measures (if needed), would be required to reduce impacts to a less-than-significant level.

Mitigation Measure

N-2 Acoustical Analysis of ATF Complex Operations

Upon completion of the 30 percent design for the ATF complex and selection of equipment, an acoustical analysis shall be prepared to determine whether combined operational noise levels from stationary noise-generating equipment, including but not limited to the pump station, HVAC equipment, and treatment equipment, will exceed the following noise standards:

- Exterior noise level limits, measured at the property line of residential land use (GBMC Section 3120.8, Table 1):
  - 60 dBA L_{eq} from 7:00 a.m. to 10:00 p.m.
  - 55 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.
- Stationary equipment noise standards, measured at the property line of the receiving land use (GBMC Section 3120.10[B][6]):[8]
  - 60 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. at single-family residential land uses
  - 65 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. at multi-family residential land uses
  - 70 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. at mixed use residential/commercial land uses

[6] The logarithmic sum of 41 dBA L_{eq} and 70 dBA L_{eq} is 70.0 dBA L_{eq}, and the logarithmic sum of 51 dBA L_{eq} and 70 dBA L_{eq} is 70.1 dBA L_{eq}.
[7] There are no commercial properties located within 750 feet of the ATF complex; therefore, impacts to commercial properties are not evaluated.
[8] Per GBMC Section 3120.10(B)(6), any stationary noise source that operates between the hours of 10:00 p.m. and 7:00 a.m. is required to obtain an Exception Permit.

- Interior noise limits, measured at the interior of habitable rooms (i.e., bedrooms, kitchens, living rooms, dining rooms) of the affected residential use (GBMC Section 3120.9):
  - 45 dBA L_{eq} from 7:00 a.m. to 10:00 p.m.
  - 40 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.

If operational noise levels would exceed any of the noise level limits, the acoustical analysis shall provide recommended attenuation measures to reduce operational noise levels below the standards. The City shall implement these measures at the ATF complex. Measures may include, but would not be limited to:

- Siting the pump station and/or HVAC equipment away from noise-sensitive land uses
- Orienting the pump station and/or ATF building such that louvers face away from noise-sensitive land uses
- Installing a sound barrier (e.g., a wall, berm, or combination or both) of sufficient height and length to break the line of sight between noise-sensitive land uses and noise sources at the ATF complex
- Screening HVAC equipment
- Installing HVAC equipment on the rooftop rather than at ground-level

Significance After Mitigation

Implementation of Mitigation Measure N-2 would require preparation of an acoustical analysis upon completion of the 30 percent design for the ATF complex and selection of equipment. The acoustical analysis will determine specific operational noise impacts and identify siting and/or design features that will be implemented to reduce operational noise levels to below the operational exterior and interior noise level limits for stationary noise sources during daytime and nighttime hours. For example, under a reasonable worst-case scenario, if the pump station and HVAC equipment are located on the southern edge of the ATF complex location, the following combination of measures would reduce noise levels generated by the pump station and HVAC equipment to below the requirements of 55 dBA L_{eq} between 10:00 p.m. and 7:00 a.m., which is the most stringent exterior noise requirement of Mitigation Measure N-2:

- Installation of a sound barrier breaking the line of sight between project-related noise sources and sensitive receivers would reduce noise levels by at least 5 dBA (FHWA 2011)
- Orienting the pump station and/or ATF building such that louvers face away from noise-sensitive land uses would reduce noise levels by at least 5 dBA (FHWA 2011)
- Siting noise sources more than 15 feet from potentially adjacent noise-sensitive land uses would provide a 6-dBA reduction in noise levels per doubling of distance; therefore, siting the pump station and HVAC equipment approximately 30 feet from noise-sensitive land uses would provide a 6-dBA reduction

Implementation of the three measures would provide a combined 16-dBA reduction in noise levels from the pump station and HVAC equipment, which would result in exterior operational noise levels of 54 dBA L_{eq} at the nearest sensitive receivers, assuming they are located immediately adjacent to the property boundary of the ATF complex. Modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows (FHWA 2011) and resulting interior noise levels at sensitive receivers adjacent to the ATF complex location would be approximately 20 dBA L_{eq}. Therefore, implementation of these measures would reduce interior

noise levels to approximately 34 dBA L_{eq}, which would be below the most stringent interior noise requirement of 40 dBA L_{eq} during nighttime hours (10:00 p.m. to 7:00 a.m.) of Mitigation Measure N-2. As a result, operational noise impacts would be reduced to a less-than-significant level.

Impact N-3 ROADWAY NOISE GENERATED BY TRAFFIC ASSOCIATED WITH THE PROPOSED PROJECT WOULD NOT GENERATE A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE VICINITY OF THE PROJECT IN EXCESS OF LOCAL STANDARDS DURING PROJECT OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Vehicle trips associated with project operation would primarily utilize Farroll Road, Huber Street, and/or Barca Street to access the project site locally and would be dispersed regionally on U.S. 101, SR 1, and other arterial and local roadways. As discussed in Section 4.10.2, *Methodology and Significance Thresholds*, maximum daily traffic associated with project operation would be approximately 36 one-way trips. In comparison, traffic volumes in Grover Beach are within the 1,500 to 3,000 average daily trip range for residential areas and between 14,000 to 23,000 average daily trips on Grand Avenue between 3rd and 12th Streets (City of Grover Beach 2005). In addition, as discussed in Section 4.11, *Transportation*, existing average daily traffic volumes on SR 1 in the project area range from approximately 4,800 to 11,500 trips. Given the minimal number of project-related trips, the proposed project would not double traffic on local roadways. Therefore, traffic generated by the project would not result in a 3 dBA increase in ambient noise levels, and roadway noise impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Impact N-4 PROJECT CONSTRUCTION AND OPERATION WOULD NOT GENERATE PERCEPTIBLE VIBRATION AT NEARBY RECEIVERS AND WOULD NOT EXCEED THE THRESHOLD FOR STRUCTURAL DAMAGE; THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction of the water distribution pipelines and ATF complex would require the use of equipment that may generate substantial levels of vibration, such as jackhammers, vibratory rollers, loaded trucks, and bulldozers. Table 4.10-21 summarizes vibration levels generated during project construction at a distance of 150 feet per GBMC Section 3.120.10(B)(7) and PBMC Section 9.24.050(B)(6) and shows the distances within which vibration levels from each piece of equipment would exceed 0.25 in/sec PPV. As shown therein, vibration levels from construction equipment would not exceed the threshold for human annoyance of 0.25 in/sec PPV at 150 feet. Vibration levels would exceed 0.5 in/sec PPV, the threshold for damage to historic and older residential structures, within 11 feet of construction equipment. Vibration-generating construction equipment would not operate with 11 feet of existing or planned structures given the spatial limitations of maneuvering such equipment. Furthermore, as discussed in Section 4.3, *Cultural Resources*, the only historic structure near project components with known locations is the Oceano Depot, located approximately 35 feet northeast of the MW-5D/5E/5F location. However, vibration levels generated by construction equipment that would be used for monitoring well installation (a jackhammer and a drill rig) would not exceed 0.5 in/sec PPV, the threshold for damage to extremely susceptible buildings, beyond 5 feet from the well location. Therefore, project construction would not result in

an adverse vibration impact to the Oceano Depot. As a result, construction vibration impacts would be less than significant.

Table 4.10-21 Vibration Levels during Project Construction

Equipment	Approximate PPV at 150 Feet (in/sec)	Distance of 0.5 in/sec PPV Contour (Feet)
Large bulldozer	0.01	5
Small bulldozer	0.0004	< 1
Drill rig	0.01	5
Loaded trucks	0.01	5
Vibratory Roller	0.03	11
Jackhammer	0.005	2

VdB = vibration decibels

Source: Caltrans 2020

The proposed project does not include components that would generate substantial vibration during operation. Therefore, no operational vibration impacts would occur.

Mitigation Measure

No mitigation is required.

Threshold:	For a project located within the vicinity of a private airstrip or 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?

Impact N-5 PROJECT CONSTRUCTION AND OPERATION WOULD NOT EXPOSE CONSTRUCTION WORKERS AND STAFF TO EXCESSIVE NOISE LEVELS FROM THE OCEANO COUNTY AIRPORT. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The Oceano County Airport, which has one paved runway, is located in the project area. The Oceano County Airport primarily serves single-engine piston-powered general aviation aircraft and does not provide scheduled air carrier service. As shown in Figure 4.10-2, several project components with known locations would be located within the single-event noise level contours for the Oceano County Airport. IW-4, MW-4A/4B, MW-4C/4D, and some water distribution pipelines would be located within the 65 dBA single-event noise level contour; MW-5D/5E/5F and some water distribution pipelines would be located within the 75 dBA single-event noise level contour; and IW-5A, IW-5B, MW-5A/5B/5C, and some water distribution pipelines would be located within the 85 dBA single-event noise level contour and within Oceano County Airport. The remaining project components with known locations would be located outside the 65 dBA single-event noise level contour.

Although most of Grover Beach lies outside the single-event noise level contours of the airport, portions of the city are within the 65 and 75 dBA single-event noise level contours (San Luis Obispo County Airport Land Use Commission 2007). Therefore, it is possible that the new production well and agricultural irrigation pipelines would be located within either the 65 or 75 dBA single-event noise level contour for the airport.

Figure 4.10-2 Single-Event Noise Contours for Oceano County Airport

Imagery provided by California Department of Transportation, 2002.

Construction Noise

Construction workers at the injection well, monitoring well, and water distribution pipeline locations would be intermittently exposed to elevated noise levels during aircraft take-off and landing events, especially within the 75 and 85 dBA single-event noise level contours and on the Oceano County Airport property. Projected annual operations for the Oceano County Airport are approximately 15,232 flights in 2020 (approximately 42 flights per day) and 16,490 flights in 2025 (approximately 46 flights per day). Assuming that aircraft take off and land primarily between 7:00 a.m. and 10:00 p.m., approximately three to four flights would occur per hour. As discussed under Impact N-1, construction equipment noise levels typically range between 75 to 90 dBA L_{eq} at 50 feet. Therefore, although aircraft take-off and landing events would contribute to the noise environment, construction noise would be the dominant source of noise exposure for construction workers. Furthermore, construction contractors would be required to comply with California Occupational Safety and Health Administration regulations related to worker exposure to noise. Section 5096 of these regulations sets duration-based noise exposure limits for construction workers that require provision of personal protective equipment should exposure exceed the specified limits. These regulations would reduce construction worker exposure to high noise levels such that construction activities would not expose employees to excessive noise levels. Therefore, project construction would not expose workers to excessive noise levels, and construction-related impacts would be less than significant.

Operational Noise

During project operation, staff would work primarily at the ATF complex, which would be located outside of the 65 dBA single event noise contour for the airport. As discussed in Section 4.10, *Noise,* staff performing operations and maintenance activities at the above-mentioned wells and pipelines could be exposed to elevated noise levels ranging from 65 to 85+ dBA during aircraft take-off and landing events. Maintenance activities at these wells would occur once a week; therefore, workers would be infrequently exposed to aircraft noise. In addition, the City would be required to comply with California Occupational Safety and Health Administration regulations related to worker exposure to noise. Section 5096 of these regulations sets duration-based noise exposure limits for employees that require provision of personal protective equipment should exposure exceed the specified limits. These regulations would reduce employee exposure to high noise levels such that operational activities would not expose employees to excessive noise levels. Furthermore, staff completing outdoor operations and maintenance activities at the well locations would have the option of seeking a quieter noise environment inside the SSLOCSD WWTP building or their vehicles during aircraft take-off and landing events, if desired, to reduce exposure to aircraft noise. Therefore, project operations would not expose people working in the project area to excessive noise levels, and operational impacts would be less than significant.

Mitigation Measure

No mitigation is required.

c. Cumulative Impacts

The geographic scope for cumulative noise impacts is generally limited to areas within 0.5 mile of the project area. This geographic scope is appropriate for noise because the proposed project's noise impacts would be localized and site-specific. Beyond this distance, impulse noise may be briefly audible, but steady noise from the proposed project would generally dissipate such that the

level of noise would reduce to below the daytime and nighttime thresholds and/or blend in with the background noise level.

It is unknown at this time when project construction would begin; therefore, it is possible that project construction would occur at the same time as some of the cumulative development projects listed in Table 3-1 in Section 3, *Environmental Setting*. Overlapping construction activities could result in cumulative noise impacts related to a temporary increase in daytime ambient noise levels. Of particular concern would be cumulative project numbers 5, 6, 8, 31, and 90, which are located within 500 feet of project components with known locations (see Table 3-1 and Figure 3-3). Therefore, cumulative impacts related to daytime construction noise would be potentially significant. However, the project would be required to implement Mitigation Measure N-1, which would reduce daytime construction noise levels for project components with known locations below 60 dBA L_{eq}. Therefore, construction noise levels would generally be lower than ambient noise levels in the project area, which range from 67 to 73 dBA L_{eq} as shown in Table 4.10-4. Furthermore, Mitigation Measure N-1 would require the City and/or its contractor(s) to schedule construction of IW-5A, IW-5B, and MW-5A/5B/5C so that construction activities do not overlap with construction of the SSLOCSD Wastewater Redundancy Project, which would minimize the project's contribution to cumulative construction noise impacts at residences located west and north of the SSLOCSD WWTP property. Therefore, with implementation of Mitigation Measure N-1, the project would not have a cumulatively considerable contribution to the significant cumulative impact related to construction noise.

Given the nature of the projects listed in Table 3-1 in Section 3, *Environmental Setting*, none of these projects are expected to conduct nighttime construction activities, which are typically necessary for infrastructure projects that require partial or full closures of major roadways or well projects that require 24-hour drilling. Therefore, nighttime construction noise generated by well drilling activities would not combine with nighttime construction noise generated by other projects, and no cumulative nighttime construction noise impact would occur.

Cumulative development would add sources of on-site operational noise within and near the project area; however, as shown in Table 3-1 and Figure 3-3 in Section 3, *Environmental Setting*, no cumulative projects are located within 750 feet of the ATF complex location, which is the only project component that would generate operational noise. At receivers located at distances greater than 750 feet, operational noise levels would be substantially attenuated by intervening development and topography or would be obscured by noise sources closer to these receivers. Therefore, operational noise generated by the ATF complex would not combine with operational noise from cumulative projects, and no cumulative operational noise impact would occur.

Buildout of cumulative development within and near the study area, including the projects listed in Table 3-1 in Section 3, *Environmental Setting*, would increase traffic volumes on local roadways, which would increase roadway noise levels. For example, traffic volumes on residential streets in Grover Beach are forecast to increase by approximately 1,000 average daily traffic (ADT) between 2005 and 2025 (City of Grover Beach 2005). The cumulative increase in traffic would have the potential to double existing traffic volumes and result in more than a 3-dBA increase in roadway noise levels. Therefore, cumulative roadway noise impacts during project operation would be potentially significant. However, project-related traffic of 36 ADT would be negligible in comparison to the high volumes of traffic generated by the types of residential, commercial, hotel, and industrial projects listed in Table 3-1. As a result, the project's contribution to potentially significant cumulative traffic impacts would not be cumulatively considerable.

As discussed in Section 4.10.1(b), *Groundborne Vibration*, vibration generated by human activities, such as construction, is localized and rapidly attenuates with distance. It is possible that project construction would occur at the same time as some of the cumulative development projects listed in Table 3-1 in Section 3, *Environmental Setting*. None of these cumulative development projects are located close enough to the injection wells, monitoring wells, water distribution pipelines and ATF complex to create cumulative vibration impacts at the same receivers or structures. In addition, as shown in Table 4.10-21, cumulative development projects would have to be within 11 feet of the same structures as project components with unknown locations to result in cumulative vibration impacts. Therefore, no cumulative impact related to construction vibration would occur.

Cumulative development within the single-event noise level contours of the Oceano County Airport, including project numbers 2, 5, 7 through 20, 31 through 34, 36, and 90 listed in Table 3-1, *Environmental Setting*, would expose additional people residing or working in the project area to elevated noise levels from airport operations. However, these projects would subject to review by the San Luis Obispo County Airport Land Use Commission for consistency with the Oceano County Airport Land Use Plan (2007), which includes policies and standards to avoid adverse noise impacts to people residing and working in the airport land use planning area. Therefore, adherence to the policies and standards of the Oceano County Airport Land Use Plan would preclude cumulative impacts related to noise from airport operations, and no cumulative impact would occur.

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4.11 Transportation

This section of the EIR identifies and evaluates issues related to transportation in the project area and the potential impacts of the proposed project related to transportation. Because the majority of project components would be located in Grover Beach and Oceano (a census-designated place in unincorporated San Luis Obispo County), local roadways within these jurisdictions would be primarily impacted by project-related traffic. Therefore, this section focuses on impacts to transportation networks in Grover Beach and Oceano and refers to these areas collectively as the "study area." Agricultural irrigation pipelines between the ATF complex and agricultural lands south of Oceano would primarily be located under private roads adjacent to farmland, and would not introduce new operational trips; therefore, they were not analyzed in detail in this section.

4.11.1 Setting

a. Roadway Network

The study area includes SR 1, which is a two-lane highway that runs north-south through the western portion of the study area; U.S. Highway 101, which is a four-lane divided highway that runs northwest-southeast through the northern portion of the study area; and major arterial, minor arterial, collector, and local streets. Existing daily traffic volumes for U.S. Highway 101 and SR 1 are summarized in Table 4.11-1.

Table 4.11-1 Existing Traffic on Regional Roadways in Study Area

Roadway	Post Mile	Description	Back AADT[1]	Ahead AADT[2]
SR 1	10.900	Halcyon Road	4,800	9,400
	13.000	Entrance to Pismo State Beach	7,000	9,300
	14.100	Grand Avenue	9,700	11,500
	15.268	Villa Creek (Pismo Creek)	11,200	11,200
	16.543	South Junction with U.S. Highway 101 in Pismo Beach	8,100	11,000
U.S. Highway 101	15.579	Pismo Oaks	67,300	95,000
	16.398	South Pismo Beach	85,000	77,000
	17.756	South Junction with SR 1 in Pismo Beach	69,600	83,000

AADT = average annual daily traffic; SR = State Route

[1] Back AADT usually represents traffic volumes south or west of the count location

[2] Ahead AADT usually represents traffic volumes north or east of the count location.

Source: Caltrans 2017

The Grover Beach General Plan Circulation Element provides information regarding circulation and transportation for the city. The primary arterial roads in Grover Beach are South 4th Street, South 13th Street, South Elm Street, South Halcyon Road, West Grand Avenue, Fair Oaks Avenue, Farroll Road, and Paso Robles Street. Traffic volumes on roadways in Grover Beach, especially SR 1, increase significantly during peak summer months. At present, there are nine traffic signals located within Grover Beach. These traffic signals are primarily located along Grand Avenue at its intersections with SR 1, 4th Street, 8th Street, 9th Street, 10th Street, 13th Street, 16th Street, and Oak Park Boulevard. The ninth signal is located at the Oak Park Boulevard/El Camino Real intersection. The remaining intersections in Grover Beach are controlled by two-way or all-way stop signs or yield

signs. Roadway traffic volumes in Grover Beach are within the 1,500 to 3,000 ADT range for residential areas and between 14,000 to 23,000 ADT on Grand Avenue between 3rd Street and 12th Street (City of Grover Beach 2005).

The San Luis Obispo County General Plan guides development in unincorporated areas within the county. The County distributes the Circulation Element among several area plans, including the Oceano Specific Plan. Oceano is primarily a residential community divided by SR 1 with the bulk of the community's traffic generated on local residential roads that flow to arterials connecting to SR 1. In addition to SR 1, The Pike, 22nd Street, and Halcyon Road are identified as heavily trafficked corridors that extend through Oceano. In addition to these corridors, Railroad Street, Air Park Drive, Front Street, and Pier Avenue are major collector streets in Oceano within the study area. Congestion within the study area primarily occurs during weekends, holidays, and summer months (County of San Luis Obispo 2001).

b. Public Transit Services

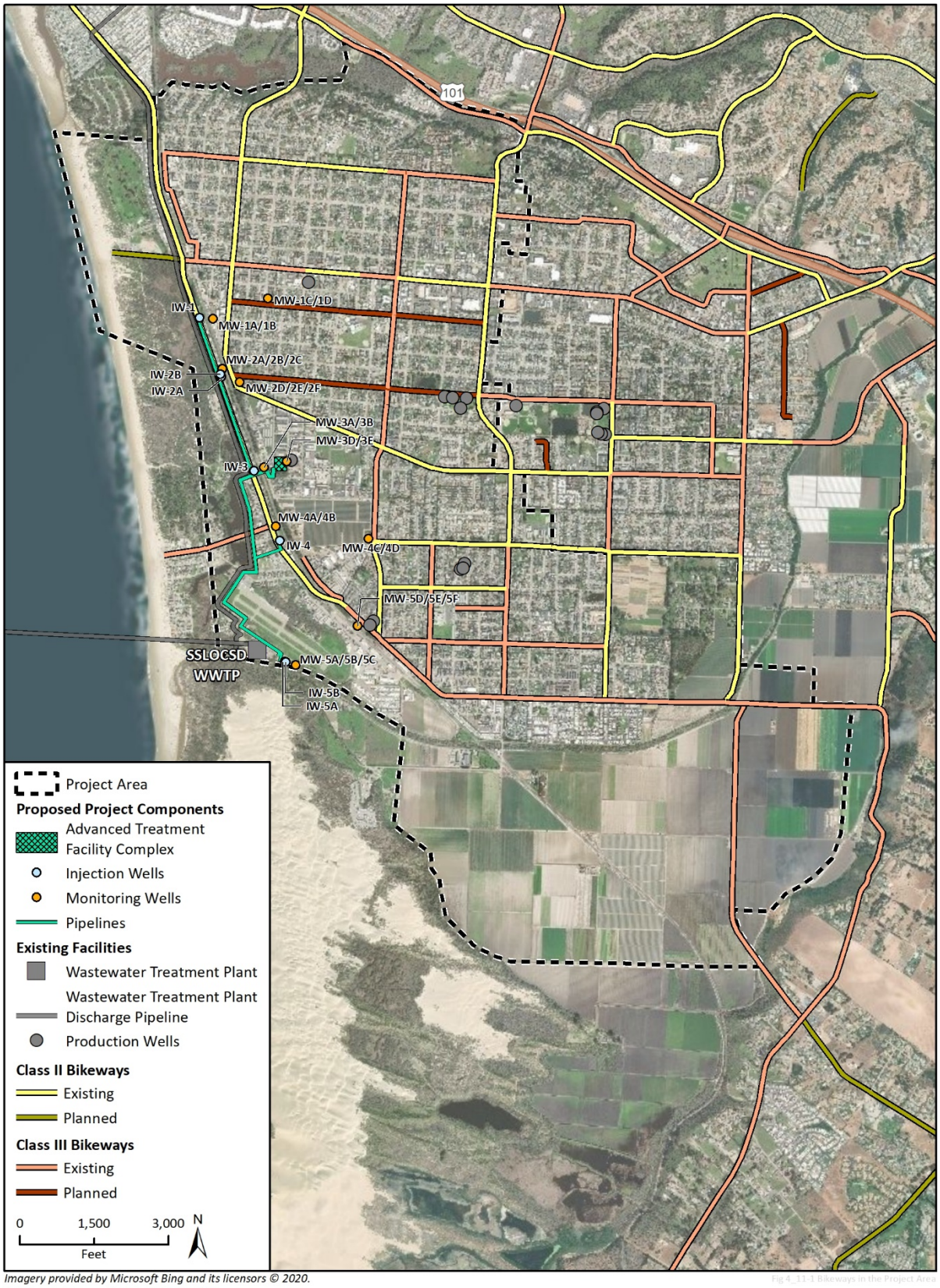
Public transit facilities are located throughout the study area. The San Luis Obispo Regional Transit Authority administers public transportation services under South County Transit within Grover Beach and the unincorporated community of Oceano (San Luis Obispo Regional Transit Authority 2019). There are four bus routes in the study area - Routes 21, 24, 27, and 28. Route 21 starts at the Pismo Beach Premium Outlets and is a loop through Arroyo Grande, the northern portion of Grover Beach, and the eastern half of Pismo Beach. Route 24 runs generally the same route as Route 21, but in reverse order. Route 27 begins at Ramona Garden Park in Grover Beach and is a loop through Arroyo Grande, the southern portion of Grover Beach, and Oceano (South County Transit 2016). Route 28 runs the same route as Route 27, but in reverse order. The nearest bus stop to the known locations of project components is the Air Park Drive/Oceano Airport stop on Air Park Drive in Oceano for Routes 27 and 28, which is adjacent to the proposed water distribution pipeline alignment. The nearest bus stops to the ATF complex are the 13th Street/Farroll Road stop for Route 27 and the 13th Street/Messina Court stop for Route 28.

c. Bicycle and Pedestrian Facilities

Bicycle facilities in the study area consist of Class I, II, and III bikeways. Class I bike paths are facilities with a separate right-of-way with crossflows by vehicles minimized. Class II bike lanes provide a striped lane for one-way bicycle travel on the side of the street adjacent to vehicle traffic. Class III bike routes consist of a roadway that is shared between bicycle and vehicle traffic with supplemental bike signage. As shown in Figure 4.11-1, Class I, II, and III bikeways are found throughout the study area. The entire extent of the existing and proposed bikeways in the study area is detailed in the *City of Grover Beach Bicycle Master Plan* (2011) and the *San Luis Obispo County Bikeways Plan* (2010). The nearest bikeways to the known locations of project components are a Class II/III bikeway along SR 1, adjacent to the IW-1, IW-2A, IW-2B, IW-3, IW-4, MW-1A/1B, MW-2A/2B/2C, MW-3A/3B, MW-4A/4B, and MW-5D/5E/5F locations, and a Class II/III bikeway along South 13th Street, adjacent to the MW-4C/4D location.

According to the Oceano Specific Plan, most of the community is lacking in sidewalks (County of San Luis Obispo 2001). The nearest sidewalks to the known locations of project components in Oceano are located approximately 100 feet to the north of the MW-5D/5E/5F location along the southbound lane of Front Street between Belridge Street and South 13th Street. The Grover Beach General Plan Circulation Element includes programs that prioritize sidewalks and pedestrian access

Figure 4.11-1 Bikeways in the Project Area



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Additional data provided by SLOCOG, 2014.

Fig 4_11-1 Bikeways in the Project Area

near schools and school bus stops with the second priority being commercial districts (City of Grover Beach 2005). A considerable network of sidewalks currently exists in commercial areas of Grover Beach. The nearest sidewalks to the known locations of project components within Grover Beach are along both sides of South 5th Street approximately 15 feet away from the MW-2D/2E/2F location.

d. Railroads

The Coast Corridor, which is privately owned by Union Pacific Railroad, runs through the western portion of the project area parallel to SR 1 and traverses the agricultural lands south of Oceano in a northwest-to-southeast direction. This railroad is a single track and serves both passenger and freight rail uses. Passenger rail service is provided by Amtrak and includes the Coast Starlight, which runs between Seattle and Los Angeles twice per day, and the Pacific Surfliner, which runs between San Luis Obispo and San Diego four times per day (SLOCOG 2019; Amtrak 2019). Freight rail traffic on this railroad is limited, although the route serves to relieve peak north-south freight traffic through the San Joaquin Valley and over the Tehachapi Mountains, as needed. This railroad is considered a low priority for significant capital upgrades; however, the Grover Beach train station is currently undergoing an expansion to add more support facilities, such as parking, walkways, lighting, benches, and a new bus platform (SLOCOG 2019). Some of the proposed water distribution pipelines would proceed underneath the railroad track to connect the ATF complex to the existing WWTP discharge pipeline, the proposed injection wells, and the SSLOCSD WWTP. In addition, some of the agricultural irrigation pipelines would likely proceed underneath the railroad track to access agricultural lands south of the railroad track.

e. Airports

Oceano County Airport, located at 561 Air Park Drive in the community of Oceano in unincorporated San Luis Obispo County, is the only airport within the project area. Oceano County Airport is a small, general aviation airport with one paved runway that primarily serves private aviators in single-engine piston-powered general aviation aircraft (City of Grover Beach 2010). No air traffic control, radar or instrument approach services are provided; however, pilot-controlled lighting is provided for night operations. Scheduled air carrier service is not currently provided, nor is such service anticipated in the foreseeable future (San Luis Obispo County Airport Land Use Commission 2007). Parts of the project area are within the Oceano County Airport Land Use Plan area, and two approximately 2,200-linear-foot segments of water distribution pipelines would be located within the Oceano County Airport property.

f. Regulatory Setting

State

California Department of Transportation

Caltrans is the responsible agency for implementing State-level policies and standards for highway facilities under State jurisdiction. Caltrans issues Transportation Permits to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. Construction activities for the proposed project would include work within the right-of-way of SR 1 to install water distribution pipelines and to connect proposed injection wells to the water distribution pipelines.

Per California Streets and Highway Code Sections 660 through 695, these activities would require an Encroachment Permit from Caltrans.

Senate Bill 743

To further the State's commitment to the goals of SB 375, AB 32, and AB 1358, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to PRC Section 21099. Key provisions of SB 743 include reforming CEQA analyses for aesthetics and parking for urban infill projects and replacing the metric for transportation impacts of automobile delay with VMT for all projects evaluated under CEQA. Under SB 743, the focus of the environmental impacts of transportation shift from driver delay to reduction of GHG emissions, creation of multimodal networks, and promotion of a mix of land uses. As a result, level of service (LOS) standards become local policy thresholds as adopted among individual agencies rather than CEQA thresholds. Currently official measures and significance thresholds related to VMT are still being developed and have not yet been adopted by the Cities of Pismo Beach and Grover Beach or the County of San Luis Obispo.

Local

San Luis Obispo County Council of Governments Regional Transportation Plan

The 2019 Regional Transportation Plan, adopted in June 2019, is a long-range planning document for the region's transportation system. The Regional Transportation Plan analyzes the transportation needs of the region into the future and identifies project priorities in order to improve the transportation system. The Regional Transportation Plan also includes the region's Sustainable Communities Strategy, as required by SB 375, and outlines how the region will meet or exceed its GHG reduction targets by creating more compact, walkable, bike-friendly, transit-oriented communities; preserving important habitat and agricultural areas; and promoting a variety of transportation demand management and system management tools and techniques to maximize the efficiency of the transportation network (SLOCOG 2019). The goals and objectives of the 2019 Regional Transportation Plan include:

1. Preserve the transportation system
2. Improve intermodal mobility and accessibility for all people
3. Support a vibrant economy
4. Improve public safety and security
5. Foster livable, healthy communities and promote social equity
6. Practice environmental stewardship
7. Practice financial stewardship

Oceano Specific Plan

As discussed under Section 4.11.1(a), *Roadway Network*, the San Luis Obispo County General Plan divides its Circulation Element among the County's Specific Plans. The Oceano Specific Plan outlines circulation goals and core values to provide for improved circulation and to address other transportation modes. One of the overarching purposes of the Specific Plan is to maintain an efficient and safe circulation system for cars, buses, pedestrians, and bicycles. Goals and Core Values of the Oceano Specific Plan related to circulation include (County of San Luis Obispo 2001):

- **Goal 3: Public Facilities and Services.** A community with good streets, adequate drainage, excellent public services and amenities.
  - **Core Value 9.** The Town's location, particularly with its proximity to the beach, is viewed as an important asset. However, vehicular access through the community is a growing concern. The Specific Plan will evaluate the existing and projected traffic levels to provide for improved circulation.
  - **Core Value 10.** Truck routes (and truck parking) should be reviewed periodically to fit the changing dynamics of the community; to better control conflicts between trucks and other traffic; and to minimize impacts on residential areas.
  - **Core Value 11.** In addition to automobile circulation, the Specific Plan should address other transportation modes. Of particular interest in Oceano are safe and convenient pedestrian connections, an expanded bicycle route system, and additional transit opportunities. Increasing the frequency of buses, having longer hours, affordable fares and more convenient stops is desirable for the Town's existing transit system.
  - **Core Value 17.** Better street lighting, underground utilities, road maintenance, storm drainage, curbs, gutters, crosswalks, and sidewalks are needed in many parts of the community.

SLO County Bikeways Plan

The SLO County Bikeways Plan identifies and prioritizes bikeway facilities throughout the unincorporated area of the county including bike lanes, routes, parking, connections with public transportation, educational programs, and funding. The Plan includes bicycle circulation network recommendations to support the completion of the network as well as education, outreach and safety programs (County of San Luis Obispo 2010).

Grover Beach General Plan Circulation Element

The Grover Beach General Plan Circulation Element guides growth and expansion of transportation and circulation facilities within the City of Grover Beach's planning area. The goals of the Circulation Element provide the overall direction the City desires in planning and implementing the expansion of the current circulation system to meet the changing travel demands of the community. These goals include (City of Grover Beach 2005):

- **Goal 1.** Provide Safe and Efficient Vehicular Movement.
- **Goal 2.** Coordinate Policies for Land Development and Circulation.
- **Goal 3.** Promote Alternative Travel Modes, Including Transit, Pedestrian, Bicycle, and Rail Systems.
- **Goal 4.** Coordinate Local Transportation Planning and Administration with the Activities of Other Government Agencies and Concerns of Local Citizens and Businesses.
- **Goal 5.** Design and Implement the Circulation System to Protect Natural Features and Conserve Energy.

Per the Circulation Element, the City's LOS standard for City transportation facilities is LOS C (City of Grover Beach 2005). The LOS criteria standards for roadway segments within Grover Beach are detailed in Table 4.11-2.

Grover Beach Bicycle Master Plan

The Grover Beach Bicycle Master Plan (2011) facilitates implementation of the City of Grover Beach local and regional bikeway network. The Bicycle Master Plan lists specific goals, policies, and implementation measures for improving bicycle facilities within the city limits. These goals include:

3.1.1 Bikeway Route Development

- **Goal 1.** A comprehensive network of bicycle and trail facilities that connect residential neighborhoods to commercial areas, parks and schools.
- **Goal 2.** A safe, convenient and connected bikeway system that meets the transportation and recreational needs of riders of all skill levels and complements other transportation types including automobiles, transit, trains and pedestrians.
- **Goal 3.** Provide a balanced transportation system consistent with the General Plan Circulation Element that provides residents a variety of transportation choices including automobile, transit, bicycle, and pedestrian options.

Table 4.11-2 LOS Criteria Standards for Roadway Segments for Total Two-way Average Daily Trips

Roadway Segment Type	LOS A	LOS B	LOS C	LOS D	LOS E
4-Lane Divided Freeway	28,000	43,200	61,600	74,400	80,000
2-Lane Highway	11,000	12,500	14,500	16,000	18,000
4-Lane Major Divided Arterial (with left-turn lane)	22,000	25,000	29,000	32,5000	36,000
4-Lane Minor Undivided Arterial (no left-turn lane)	18,000	21,000	24,000	27,000	30,000
2-Lane Major Arterial (with left-turn lane)	11,000	12,500	14,500	16,000	18,000
2-Lane Minor Arterial (no left-turn lane)	9,000	10,500	12,000	13,500	15,000
2-Lane Collector	6,000	7,500	9,000	10,500	12,000
2-Lane Local Street	2,000	3,000	4,000	5,000	6,000

LOS = level of service

Notes: Based on the Transportation Research Board *Highway Capacity Manual* (2000). All traffic volumes are approximate and assumed ideal roadway characteristics. Actual threshold volumes for each LOS listed above may vary depending on several factors including (but not limited to) roadway curvature and grade, intersection or interchange spacing, driveway spacing, percentage of trucks and other heavy vehicles, travel lane widths, signal timing characteristics, on-street parking, and volume of cross traffic and pedestrians.

Source: City of Grover Beach 2005

3.1.2 Bikeway Support Facilities

- **Goal 1.** A comprehensive bikeway system with adequate support facilities to serve the needs of commuter and recreational bicycle riding.

The Plan proposes a Class 1 bike path adjacent to the northbound lane of SR 1 and the Union Pacific Railroad track through Grover Beach, which would connect to a planned regional bikeway along the northbound lane of SR 1 in Oceano (City of Grover Beach 2011). This bike path would be adjacent to the location of IW-1.

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Potential transportation impacts were evaluated for both construction and operation of the project. Impacts are evaluated in light of existing transportation conditions and anticipated project-related traffic generated during construction activities and operation and maintenance activities. Estimates of vehicle trips and VMT during project construction and operation were calculated using data provided by Water Systems Consulting (the project engineer) and estimates provided by the California Emissions Estimator Model (CalEEMod), which was used to calculate the project's air pollutant and GHG emissions (see Section 4.1, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions* for modeling assumptions).

Significance Thresholds

In accordance with Appendix G of the CEQA Guidelines, impacts related to transportation would be significant if the proposed project would:

- Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities
- Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)
- Result in inadequate emergency access

b. Project Impacts and Mitigation Measures

Threshold:	Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact T-1 PROJECT CONSTRUCTION WOULD CONFLICT WITH A PROGRAM, PLAN, ORDINANCE OR POLICY ADDRESSING THE CIRCULATION SYSTEM, INCLUDING TRANSIT, ROADWAY, BICYCLE AND PEDESTRIAN FACILITIES. THEREFORE, IMPLEMENTATION OF MITIGATION MEASURE T-1 WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The three primary plans that address the circulation system in the study area are the SLOCOG 2019 RTP, the Grover Beach General Plan Circulation Element, and the Oceano Specific Plan. Each of these plans addresses various modes of transportation, including vehicles, bicycles, pedestrian, and transit and includes objectives and policies related to these modes of transportation. These plans are detailed in Section 4.11.1(e), *Regulatory Setting*.

Construction

During construction of the proposed project, there would be a temporary increase in heavy truck trips and construction worker vehicle trips on the existing regional and local roadway network in the study area. Construction-related trips would consist primarily of passenger cars and light duty pickup trucks used by construction workers, haul truck trips to export soil from the project site, and occasional movement of heavy equipment and materials to and from the construction sites.

Construction traffic would likely utilize U.S. Highway 101 and SR 1 to access the study area with most construction traffic utilizing SR 1 to access the injection well and some water distribution pipeline locations. Construction traffic would also utilize arterial, collector, and local streets in Grover Beach and Oceano to access the ATF complex, monitoring wells, and some water distribution pipeline locations. These roadways would likely also be utilized by construction traffic to access the sites of the new production well and agricultural irrigation pipelines, depending on their locations. Table 4.11-3 summarizes the anticipated trip generation related to project construction activities.

As detailed in Table 4.11-3, maximum daily construction traffic would be approximately 136 trips. Construction traffic on local streets and intersections could potentially disrupt traffic flows due to slow vehicle speeds. However, as discussed in Section 4.11.1(a), *Roadway Network*, traffic volumes are between 1,500 and 3,000 ADT on residential streets in Grover Beach and between 14,000 to 23,000 ADT on Grand Avenue between 3rd and 12th Streets. As shown in Table 4.11-1, traffic volumes range from 4,800 to 11,500 ADT on SR 1 and from 67,000 and 85,000 ADT on U.S. Highway 101. Therefore, construction traffic would be between approximately 0.2 to 9.1 percent of traffic volumes on roadways in the study area. Construction traffic would be temporary and distributed on several roadways in the study area. Given the minimal number of trips, construction traffic would not result in a temporary change in LOS at intersections and on-/off-ramps along arterial streets, SR 1, and U.S. Highway 101. However, if construction traffic utilizes residential streets, it would potentially increase LOS at intersections in residential areas by temporarily increasing traffic volumes by 4.5 to 9.1 percent, depending on the roadway. Therefore, temporary construction impacts related to intersection LOS would be potentially significant.

Table 4.11-3 Estimated Maximum Project Construction Traffic

Type of Vehicle Trip	Construction Phase	Number of One-Way Trips (per day)
Construction Worker Trips	Injection/Monitoring/Production Wells[1]	40
	Pipelines	20
	Advanced Treatment Facility	20
Material Delivery/Water Truck Trips	Injection/Monitoring/Production Wells[1]	4
	Pipelines	2
	Advanced Treatment Facility	6
Soil Export[2]	Injection/Monitoring/Production Wells[1]	4
	Pipelines	32
	Advanced Treatment Facility	8
Maximum Daily Construction Trips[3]		**136**

[1] Assumes two injection/production wells and their associated monitoring wells would be constructed simultaneously.

[2] Total number of soil export trips divided by the number of days in the grading phase. For the ATF complex, the number of daily soil export trips is greater than the number of daily demolition haul trips; therefore, daily soil export trips is used in this analysis to provide a conservative estimate of construction traffic impacts.

[3] It is unlikely that all material delivery and soil export trips would occur on the same day given the different phasing of construction schedules for each of the major project components. However, this analysis conservatively assumes that all trips would occur on the same day to provide a reasonable, worst-case estimate of project impacts.

Source: Appendix C

Installation of water distribution and agricultural irrigation pipelines under the Union Pacific Railroad track would be completed using horizontal directional drilling or jack-and-bore techniques. Union Pacific Railroad would require these construction activities to adhere to the applicable guidelines for utility installations underneath railroad rights-of-way as established by the most current version of the American Railway Engineering and Maintenance-of-Way Association *Manual for Railway Engineering* (Union Pacific Railroad 2019). These guidelines include standards for drilling procedures, depth of drilling, and construction monitoring of the ground, ballast, and track for movement during the pipeline drilling, reaming, and pullback processes. Train operations are permitted to continue throughout the duration of construction activities unless any movement is detected, at which point the installation process and all train movement must be immediately stopped, the damage reported to Union Pacific Railroad, and the damaged area immediately repaired. The installation process must be reviewed and modified as required before the installation may proceed. Therefore, with compliance with applicable Union Pacific Railroad requirements, including American Railway Engineering and Maintenance-of-Way Association guidelines, temporary construction impacts to railroad operations would be less than significant. Once installed, the water distribution and agricultural irrigation pipelines would not have any impact to railroad operations because they would be located underground and designed in accordance with Union Pacific Railroad requirements.

Installation of water distribution pipelines on the Oceano County Airport property would not require physical alterations to airport infrastructure such as runways and aircraft hangars; however, construction activities would temporarily limit airport operations. Assuming an installation rate of 150 linear feet per day, installation of the two 2,200-foot pipeline segments within the Oceano County Airport would require approximately 30 working days (or six weeks). The City and its construction contractor(s) would coordinate with the County of San Luis Obispo Department of Airports prior to and during construction of water distribution pipelines within the boundaries of the Oceano County Airport to ensure that appropriate safety measures are implemented and to schedule construction activities so as to minimize the impact to airport operations (Piper 2020). Furthermore, general aviation aircraft that normally utilize the Oceano County Airport could instead access the region via the San Luis Obispo County Regional Airport, which is located approximately 10 miles to the north during the construction period if necessary. Therefore, construction impacts to the air travel in the area would be less than significant.

The proposed project may temporarily alter the movement of vehicles, public transit, bicycles, and/or pedestrians within the study area because lane and/or road closures would be required where water distribution and agricultural irrigation pipelines and monitoring wells are installed in public roadway rights-of-way. Water distribution pipelines would be installed within the public rights-or-way of Barca Street, South 4th Street, and Calvin Court in Grover Beach as well as SR 1, Coolidge Drive, Norswing Drive, Pershing Drive, and Mendel Drive in Oceano. MW-1C/1D, MW-2D/2E/2F, and MW-3A/3B would be located in the public rights-of-way of Manhattan Avenue, South 5th Street, and South 4th Street in Grover Beach. Impacts would vary based on the component being installed as well as the configuration of the circulation system surrounding each of the impacted rights-of-ways, such as the proximity of intersections and whether the right-of-way is a main thoroughfare. Furthermore, construction equipment and materials would be staged temporarily within the public right-of-way near the construction area, which may impact transit stops, bicycle, and/or pedestrian facilities. Construction activities associated with the water distribution and agricultural irrigation pipelines may also result in accidental damage to the existing roadway network, including pavement, curbs, gutters, sidewalks, and drainage structures. As a result, construction-related transportation impacts would be potentially significant. Implementation of

Mitigation Measure T-1, which includes development and implementation of a Transportation Management Plan, would be required to reduce impacts to a less-than-significant level.

Operation

All public roadway rights-of-way and portions of the Oceano County Airport property impacted during construction would be returned to pre-construction conditions upon completion. Water distribution and agricultural irrigation pipelines would be installed underground, and monitoring wells located in public rights-of-way would be installed in traffic-rated flush-mount vaults to allow vehicle traffic to drive over. As a result, project components would not physically interfere with the circulation system during project operation.

Project-related traffic would include daily employee trips to and from the ATF complex. Additional trips would include weekly injection well maintenance trips, biweekly chemical deliveries to the ATF complex, semiannual pipeline inspection trips, and other as-needed maintenance trips. The ATF complex would employ approximately 15 employees; therefore, approximately 30 one-way employee trips would occur per day. These trips would primarily utilize Farroll Road, Huber Street, and/or Barca Street to access the project site locally and would be dispersed regionally on U.S. Highway 101, SR 1, and other arterial and local roadways. Assuming the weekly injection well maintenance trip, biweekly chemical delivery trip, and semiannual pipeline inspection trip occur on the same day, maximum daily project-related traffic volumes would be approximately 36 ADT (30 + 2 + 2 + 2). These trips would occur primarily on SR 1 and arterial, collector, and local streets in Grover Beach and Oceano. As discussed in Section 4.6.1(a), *Roadway Network*, existing traffic volumes in the study area range from 1,500 ADT on residential streets in Grover Beach to 11,500 ADT on SR 1. The addition of 36 project-related trips to existing traffic volumes would be negligible and would not significantly impact LOS at any of the study area intersections. Furthermore, as discussed in Section 4.12, *Effects Found Not to Be Significant,* the proposed project would not directly or indirectly induce population growth that could generate additional trips because the proposed project would protect the existing water supply rather than expand future water supplies. Therefore, project operation would not conflict with adopted policies, plans, or programs regarding roadways, public transit, bicycle, or pedestrian facilities because the proposed project would not significantly impact the circulation system, increase traffic congestion, substantially contribute additional ADT, or result in other long-term impacts. As a result, operational transportation impacts would be less than significant.

Mitigation Measure

T-1 Transportation Management Plan

A Transportation Management Plan (TMP) shall be developed and implemented by the City, SSLOCSD, and/or their construction contractor(s) during construction of the proposed project. The TMP shall conform to Caltrans' Transportation Management Plan Guidelines and shall include but is not limited to:

- **Construction Traffic Routes and Staging Locations:** The TMP shall identify construction staging site locations and potential road closures, alternate routes for detours, and planned truck routes for construction-related vehicle traffic, including but not limited to haul trucks, material delivery trucks, and equipment delivery trucks. It shall also identify alternative safe routes and policies to maintain safety along bicycle and pedestrian routes during construction. Construction traffic routes shall avoid local residential streets to the maximum extent practicable. Staging

locations, alternate detour routes, and construction traffic routes shall avoid other active construction projects within 0.25 mile of the project construction sites to the maximum extent practicable.

- **Damage Repair:** The TMP shall include the following requirements to minimize damage to the existing roadway network:
  - A list of precautionary measures to protect the existing roadway network, including but not limited to pavements, curbs, gutters, sidewalks, and drainage structures, shall be outlined. The construction contractor(s) shall be required to implement these measures throughout the duration of construction of the water distribution pipelines.
  - The roadway network along the proposed water distribution alignment(s) shall be surveyed prior to the start of project construction activities, and existing roadway conditions shall be summarized in a brief report.
  - Any damage to the roadway network that occurs as a result of project construction activities shall be noted, and the project sponsors shall repair all damage.
- **Coordination with Emergency Services:** The TMP shall include requirements to notify local emergency response providers, including Five Cities Fire Authority, the San Luis Obispo Sheriff Department, ambulance services, and paramedic services at least one week prior to the start of work within public rights-of-way if lane and/or road closures are required. To the extent possible, the City shall minimize the duration of disruptions/closures to roadways and critical access points for emergency services.
- **Coordination with Recreation Facilities:** The TMP shall require coordination with owners/operators of any affected recreational facilities to minimize the duration of disruptions/closures to recreational facilities, trails, and adjacent access points.
- **Coordination with South County Transit:** If the proposed project will affect access to existing South County Transit bus stops, the TMP shall also include temporary, alternative bus stops and directional signage, as determined in coordination with South County Transit.
- **Coordination with Schools:** The TMP shall require coordination with the Lucia Mar Unified School District in the study area to minimize construction impacts during the regular school year.
- **Coordinate with Caltrans:** If the proposed project requires lane and/or road closures of SR 1, the TMP shall require coordination with Caltrans to ensure the TMP conforms with Caltrans' Transportation Management Plan Guidelines.
- **Coordination with Nearby Construction Sites**: The TMP shall identify all active construction projects within 0.25 mile of project construction sites and require coordination with the applicants and/or contractors of these projects during all phases of construction regarding the following:
  - All temporary lane and/or roadway closures shall be coordinated to limit overlap of roadway closures
  - All major deliveries and haul truck trips shall be coordinated to limit the occurrence of simultaneous deliveries and haul truck trips
  - The City, its contractor(s), or its representative(s) shall meet on a regular basis with the applicant(s), contractor(s) or their representative(s) of active construction projects within 0.25 mile of the project construction sites during construction to address any outstanding issues related to construction traffic.

- **Transportation Control and Safety:** The TMP shall provide for traffic control measures including flag persons, warning signs, lights, barricades, cones, and/or detour routes to provide safe passage of vehicular, bicycle and pedestrian traffic and access by emergency responders.
- **Plan Approval:** The TMP shall be submitted to County of San Luis Obispo Department of Planning and Building and the City of Grover Beach Community Development Department for review and approval.
- **Public Notification:** Prior to the start of construction, written notice shall be provided regarding potential land and/or road closures as described in the TMP. Notice shall be delivered to potentially affected properties within a 500-foot radius of the project construction sites. The notice shall contain a brief description of the work, work dates, and contact information of the City's Planning Division. The notice shall be delivered ten calendar days prior to beginning the work and again at two working days prior to beginning the work. The notice shall be in the form of a door hanger made of index paper with a size of 14 inches by 4.5 inches. The notice shall be printed in both in English and Spanish. A revised notice shall be delivered in the event of delays in schedule as soon as reasonably possible after a delay is identified and the revised schedule is known.

Significance After Mitigation

Mitigation Measure T-1 would require implementation of designated construction traffic routes, damage repair procedures, and traffic control measures to minimize potential impacts to the movement of vehicles, public transit, bicycles, and/or pedestrians within the study area due to construction traffic and lane and/or road closures during project construction. In addition, Mitigation Measure T-1 would require coordination with South County Transit and designation of alternative bicycle and pedestrian routes during project construction to compensate for impacts to transit stops and bicycle and pedestrian facilities. As a result, implementation of Mitigation Measure T-1 would reduce construction traffic impacts to a less-than-significant level.

Threshold:	Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Impact T-2 THE PROJECT WOULD NOT CONFLICT OR BE INCONSISTENT WITH CEQA GUIDELINES SECTION 15064.3, SUBDIVISION (B). NO IMPACT WOULD OCCUR.

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state VMT exceeding an applicable threshold of significance may indicate a significant impact. According to CEQA Guidelines Section 15064.3(b)(3), a lead agency may include a qualitative analysis of operational and construction traffic. Currently, official measures and significance thresholds related to VMT are still being developed and have not yet been adopted by the Cities of Pismo Beach and Grover Beach or the County of San Luis Obispo. However, as discussed below, the project is not expected to permanently affect VMT in the study area based on guidance provided by the Governor's Office of Planning and Research *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018).

A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed under Impact T-1, traffic on local roadways would be temporarily increased during project construction due to the presence of construction vehicles and equipment. Increases in VMT from construction would be short-term, minimal, and temporary. During project operation, project-related traffic would include daily employee trips to and from the ATF complex, weekly

injection well maintenance trips, biweekly chemical deliveries to the ATF complex, and semiannual pipeline inspection trips. The Governor's Office of Planning and Research *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) states, "Projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant VMT impact." As discussed under Impact T-1, the project would generate approximately 36 ADT, which falls below the recommended screening threshold of 110 ADT. Furthermore, the project would result in annual VMT of approximately 140,977 (Appendix C), or an average daily VMT of 386 (annual VMT divided by 365 days per year), which would be an incremental increase as compared to projected countywide 2035 average daily VMT of 6,500,544 under the 2019 Regional Transportation Plan's preferred scenario (SLOCOG 2019). No impact associated with VMT per CEQA Guidelines Section 15064.3 would occur.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Impact T-3 THE PROPOSED PROJECT WOULD NOT SUBSTANTIALLY INCREASE HAZARDS DUE TO A DESIGN FEATURE OR INCOMPATIBLE USES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

During construction, the proposed project would temporarily change the built configuration of intersections and roadways within the study area. Lane and/or road detours or closures may be required where water distribution pipelines would be installed within public rights-of-way. Construction equipment and materials would be staged temporarily within the right-of-way. Lane detours or closures have the potential to increase conflicts between vehicles, bicyclists, and pedestrians; however, implementation of existing regulations and policies for road closures and lane detours within Grover Beach and San Luis Obispo County and along Caltrans facilities would reduce the potential for project construction to increase hazards in the study area. Therefore, construction impacts related to traffic hazards would be less than significant.

The proposed project would not include alterations to existing roadway alignments or intersections in the study area and therefore would not include sharp curves or unsafe designs that would increase traffic hazards. The ATF complex may include a new driveway access point; however, design of this driveway would be required to comply with local codes and standards for ingress and egress, such as the *City of Grover Beach Standards and Specifications* (2006) and the *County of San Luis Obispo Public Improvement Standards* (2019). Therefore, no operational impacts related to traffic hazards would occur.

Mitigation Measure

No mitigation is required.

Threshold:	Would the project result in inadequate emergency access?

Impact T-4 THE PROJECT WOULD POTENTIALLY RESULT IN INADEQUATE EMERGENCY ACCESS DURING CONSTRUCTION ACTIVITIES; THEREFORE, IMPLEMENTATION OF MITIGATION MEASURE T-1 WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Project construction activities would have temporary effects on traffic flow and lane configurations at specific intersections and roadways due to potential lane and/or road closures, which would potentially impact emergency access and response times in the study area. Construction activities could also temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or in emergency evacuations. Therefore, impacts related to emergency access would be potentially significant. Implementation of Mitigation Measure T-1, which includes the development and implementation of a TMP with provisions for temporary detour routes and alternative emergency access, would be required to reduce impacts to a less-than-significant level.

Operation of the proposed project would not block roadways or driveways, and emergency access to the ATF complex would be provided in accordance with applicable regulations, such as the 2019 California Fire Code, and submitted for review to the applicable local agency, such as the Five Cities Fire Authority. Therefore, operational impacts related to emergency access would be less than significant.

Mitigation Measure

Implementation of Mitigation Measure T-1, as detailed under Impact T-1, would be required.

Significance After Mitigation

Mitigation Measure T-1 would require implementation of traffic control measures and coordination with emergency response providers to minimize impacts to emergency access in the study area due to lane and/or road closures during project construction. As a result, implementation of Mitigation Measure T-1 would reduce construction impacts related to emergency access to a less-than-significant level.

c. Cumulative Impacts

The geographic scope of potential cumulative transportation impacts is the study area, which includes Oceano and Grover Beach. This geographic scope is appropriate for evaluating transportation impacts because it includes the regional and local transportation network that would primarily be impacted by the proposed project and cumulative development projects. It is unknown at this time when project construction would begin; therefore, it is possible that project construction would occur at the same time as some of the cumulative development projects listed in Table 3-1 in Section 3, *Environmental Setting*. Overlapping construction activities, simultaneous lane/road closures, and simultaneous staging of construction equipment and materials in public rights-of-way could result in cumulative impacts to transportation patterns in the study area, transit stops and bicycle and/or pedestrian facilities, and emergency access. Of particular concern would be cumulative project numbers 5, 6, 17, 18, 31, and 41, which are located along the SR 1 corridor within one mile of project components with known locations (see Table 3-1 and Figure 3-2). Therefore, cumulative impacts related to construction-traffic would be potentially significant. However, the project would be required to implement Mitigation Measure T-1, which requires

coordination with other active construction projects within 0.25 mile of project construction sites to minimize simultaneous lane and/or road closures, major deliveries, and haul truck trips. Mitigation Measure T-1 also requires designating alternate detour routes and construction traffic routes that avoid these projects to the maximum extent practicable. Therefore, with mitigation incorporated, the project would not have a cumulatively considerable contribution to the significant cumulative impact related to construction traffic.

Buildout of cumulative development within and near the study area, including the projects listed in Table 3-1 in Section 3, *Environmental Setting*, would increase traffic volumes on local roadways. For example, traffic volumes on residential streets in Grover Beach are forecast to increase by approximately 1,000 ADT between 2005 and 2025 (City of Grover Beach 2005). The cumulative increase in traffic would have the potential to degrade the LOS at intersections within the study area and to substantially increase VMT. Therefore, cumulative traffic impacts during project operation would be potentially significant. However, project-related traffic of 36 ADT and 157 daily VMT would be negligible in comparison to the high volumes of traffic and VMT generated by the types of residential, commercial, hotel, and industrial projects listed in Table 3-1. As a result, the project's contribution to potentially significant cumulative traffic impacts would not be cumulatively considerable.

4.12 Effects Found Not to Be Significant

This section provides a brief description of effects found not to be significant or less than significant, based on NOP comments or more detailed analysis conducted as part of the EIR preparation process. Note that a number of impacts that are found to be less than significant are addressed in the various EIR topical sections (Sections 4.1 through 4.11) to provide more comprehensive discussion of why impacts are less than significant, in order to better inform decision makers and the general public. The project area in this section is defined as Oceano, Grover Beach, the segment of Arroyo Grande Creek that runs along the southern and eastern boundaries of Oceano, and the agricultural lands south of Oceano, which are the locations of known project components and the locations in which the remaining project components would most likely be constructed.

4.12.1 Aesthetics

Potential Environmental Effects

- Would the project have a substantial adverse effect on a scenic vista?
- Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Reasons Why Effects Were Not Found Significant

Project components would be located in unincorporated San Luis Obispo County and Grover Beach. The San Luis Obispo County General Plan states that visual resources meriting special protection include scenic vistas and viewsheds from popular public roads and highways of the county, including State or County-designated scenic highways, and Scenic Resource Areas of significant importance identified in the County's Conservation and Open Space Element (County of San Luis Obispo 2015). The County of San Luis Obispo identifies Sensitive Resource Areas that are intended to protect visual resources; however, the project area is not located in a County Sensitive Resource Area (County of San Luis Obispo 2018). According to the Open Space and Conservation Element of the Grover Beach General Plan, scenic resources and vistas include views of open spaces (beaches, coastal dunes, rolling hills, wetlands) (City of Grover Beach 2020). Scenic vistas are also points accessible to the general public that provide a sweeping view of the countryside or coastline, prominent natural landmarks, and other unusual features of the landscape. Scenic views in the project area include views of the ocean to the west and views of the foothills north of U.S. Highway 101. Underground project components, such as pipelines, would not be visible after construction. Additionally, aboveground components of the proposed injection and production wells and the one-story ATF complex would be low-profile and similar in height to existing development and would not impede scenic vistas. Furthermore, Mitigation Measure N-2, which may result in installation of a wall on one or more sides of the ATF complex, would not result in a secondary impact because the wall would

be subject to the height limitations in the GBMC, would not exceed the height of the ATF complex, and would not impede scenic vistas. Therefore, no impact to scenic vistas would occur.

SR 1 is officially designated as a state scenic highway throughout the entire length of San Luis Obispo County, and U.S. Highway 101 is eligible for listing as a state scenic highway (Caltrans 2017). SR 1 runs through the western portion of the project area adjacent to the locations of IW-1, -2A, -2B, -3, and -4. Upon completion of construction, these wells may be visible from SR 1; however, scenic views from this highway are primarily views of the ocean to the west, and the injection wells would be located east of SR 1. Furthermore, the injection wells would be located in an existing RV park and campground and, due to their low height profile and relatively small footprint, would be momentarily visible from SR 1. Therefore, project impacts to scenic views from SR 1 would be less than significant.

While U.S. Highway 101 is not actually designated, this state highway is eligible for designation, and impacts to visual resources within its viewshed could impair its ability to be designated in the future. The proposed water distribution pipelines would be located underground and would therefore not impair scenic resources. U.S. Highway 101 is approximately 1.0 mile north of MW-1C/1D, the closest project component with a known location; however, project components would not be visible due to distance, the low height profile, and intervening topography and development. For the same reasons, it is also unlikely that the aboveground components of the production well would be visible from U.S. Highway 101. Therefore, project impacts to views from scenic highways would be less than significant.

The project area is located in an urbanized area of Grover Beach and unincorporated San Luis Obispo County. As discussed in Section 4.9, *Land Use*, pipelines and public utility facilities are allowed in all zones in unincorporated San Luis Obispo County with varying types of permits and requirements (e.g., land use permit, site plan review, conditional use permit), depending on the zone. In addition, public and quasi-public land uses are allowed with a use permit in all zones in Grover Beach with the exception of Coastal Open Space, Coastal Golf Course, Coastal Pedestrian Beach, and Coastal Vehicular Beach Zones. Project components with known locations (i.e., injection and monitoring wells) would be consistent with the underlying zoning of these locations. Furthermore, Mitigation Measure N-2, which may result in installation of a wall on one or more sides of the ATF complex, would not result in a secondary impact because the wall would be subject to the height limitations in the GBMC and would be consistent in visual character with existing industrial land uses immediately adjacent to the parcel. The location of the new production well is not known at this time; however, this well would be located east of SR 1 in Grover Beach and therefore would not be located in Coastal Open Space, Coastal Golf Course, Coastal Pedestrian Beach, or Coastal Vehicular Beach Zones. As a result, it is likely that the new production well would be consistent with the underlying zoning of its location. Therefore, the project would not conflict with the applicable zoning, and no impacts related to visual character or scenic quality would occur.

Per the Oceano County Airport Land Use Plan, projects within the Airport Planning Area (which covers most of the known project components) may not use lighting that is difficult to distinguish from airport lighting or create glare in the eyes of pilots using the airport (San Luis Obispo Airport Land Use Commission 2007). During project construction, temporary lighting used for 24-hour well drilling activities would be shielded and directed downward to illuminate the project site and would be distinguishable from airport lighting. Therefore, nighttime lighting during construction would not create a hazard for pilots utilizing the Oceano County Airport. Upon completion of construction, the project would include permanent lighting at the ATF complex but no sources of glare. Lighting at the ATF complex would be minimal and would be shielded downward to illuminate only the facility

grounds and would not be visible from Oceano County Airport because the ATF complex would be located approximately 0.6 mile northeast of the airport. Therefore, the proposed project would not include light or glare sources that would affect nighttime or daytime views, and light and glare impacts would be less than significant.

Cumulative Impacts

Cumulative aesthetic impacts are limited to the immediate vicinity of project components. Although all locations of project components are not yet known, the cumulative projects listed in Table 3-1 in Section 3, *Environmental Setting*, consist primarily of low- and medium-density residential uses, hotels, and small-scale mixed-use and commercial projects, as well as the SSLOCSD WWTP Redundancy Project. As shown in Figure 3-3, these projects would be primarily located in areas of Oceano, Grover Beach, and Arroyo Grande that are currently built-out and would be generally similar in size and scale as existing development. Therefore, no cumulative impact to scenic vistas would occur.

Cumulative development along the SR 1 corridor includes telecommunications infrastructure, four single-family residences and two multi-family residential units in existing neighborhoods, use of an existing commercial space for non-storefront cannabis delivery, 2,729-sf of commercial space, two mixed-use projects, a hotel with commercial space, and demolition and reconstruction of recreational facilities at Pismo State Beach. These projects would be similar in size and scale to existing development along the SR 1 corridor and therefore would not adversely impact scenic views from this highway. Several projects are proposed along the U.S. Highway 101 corridor; however, due to intervening vegetation, topography, and development, only one of these projects would be visible from U.S. Highway 101. Therefore, no cumulative impacts to scenic highways would occur.

The project would have no project-level impacts related to visual character and scenic quality; therefore, no cumulative impacts would occur.

Cumulative development would increase light and glare in the project area, primarily as a result of exterior lighting and reflective building surfaces. However, these projects would be located in areas with similar uses, and light and glare levels associated with each of these projects would be similar those of existing uses. Therefore, no cumulative impacts related to light and glare would occur.

4.12.2 Agricultural and Forestry Resources

Potential Environmental Effects

- Would the project 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 Resource Agency, to non-agricultural use?
- Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Would the project 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))?
- Would the project result in the loss of forest land or conversion of forest land to non-forest use?

- Would the project involve other changes in the existing environment which, due to their location and nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Reasons Why Effects Were Not Found Significant

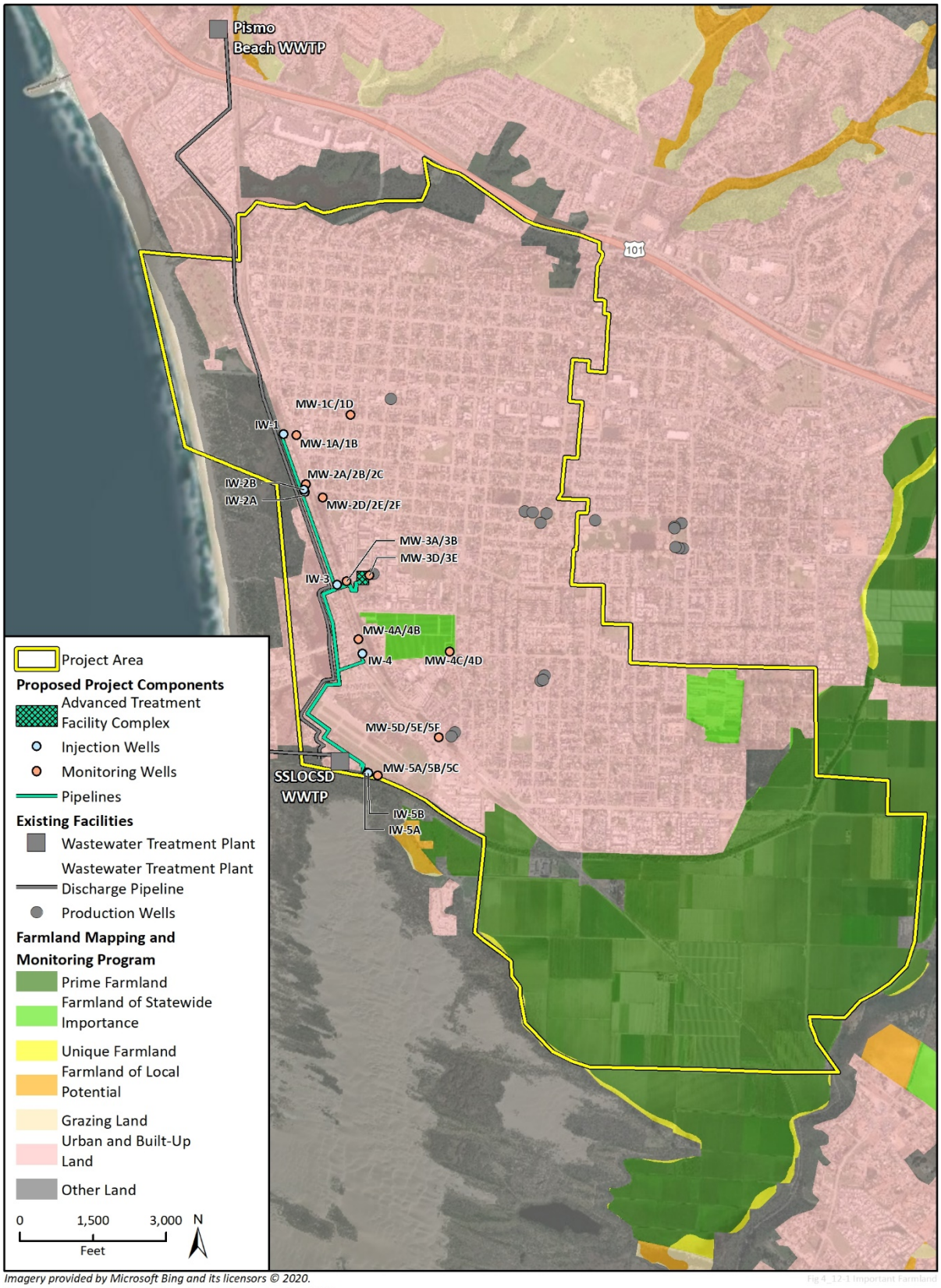
As shown in Figure 4.12-1, most land within the project area is classified as urban and built-up land; however, there are parcels in Grover Beach designated as Farmland of Statewide Importance clustered in the area south of Highland Way, east of South 4th Street, west of South 13th Street, and north of Pike Lane (California Department of Conservation 2016). These parcels are zoned Urban Reserve, which is a zoning district intended to allow for the continuation of agricultural and agricultural related uses until such time as urban development is approved. In addition, the agricultural lands to the south of Oceano are designated as Prime Farmland. A majority of the agricultural parcels to the south of Oceano in the project area are enrolled in a Williamson Act contract.

The proposed injection, monitoring, and production wells, the majority of water distribution pipelines, and the ATF complex would not be located on the parcels designated as Farmland of Statewide Importance. MW-4C/4D would be located on an area of Farmland of Statewide Importance; however, this area is designated Public/Quasi-Public, zoned Public Facilities, and is currently used as a stormwater detention basin by the City of Grover Beach. In addition, the footprint of this well would be small (approximately 25 square feet) in comparison to the size of the parcel (approximately 28,500 square feet). As a result, this monitoring well would not convert Farmland of Statewide Importance to a non-agricultural use. Additionally, agricultural irrigation pipelines may be located on agricultural lands in Grover Beach and to the south of Oceano for the purpose of distributing recycled water for agricultural irrigation activities. However, these pipelines would be located underground and would not convert the agricultural land uses. Instead, these pipelines would convey irrigation water that would help maintain the viability of agricultural activities in the region. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance or conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

A portion of water produced by the ATF may be used for agricultural irrigation activities on lands that may be classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; lands zoned for agricultural use; and/or on lands under a Williamson Act contract. This water would also be subject to compliance with California Code of Regulations Title 22, Division 4, *Environmental Health*, Chapters 1 through 3, which includes requirements for the treatment of recycled water used for surface irrigation and includes separate treatment standards depending on whether recycled water will come into contact with the edible portion of food crops eaten raw by humans. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. Therefore, use of recycled water for agricultural irrigation would not adversely impact agricultural lands, and no impact would occur.

No lands in the project area are designated for forestland or timberland (City of Grover Beach 2020; County of San Luis Obispo 2010). Therefore, the project would not result in any impacts with regard to conflict with zoning for forestland or timberland resources and would not result in the loss or conversion of forest land to non-forest use. No impact would occur.

Figure 4.12-1 Agricultural Land in the Project Area



Imagery provided by Microsoft Bing and its licensors © 2020.
Farmland data provided by CA Department of Conservation, 2016.

4.12.3 Geology and Soils

Potential Environmental Effects

- Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - 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?
  - Strong seismic ground shaking?
  - Liquefaction?
  - Landslides?
- Would the project result in substantial soil erosion or the loss of topsoil?
- Would the project 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?
- Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
- Would the project be located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Reasons Why Effects Were Not Found Significant

The project area is not within an earthquake fault zone (County of San Luis Obispo 2006). According to the San Luis Obispo County General Plan, the project area is located in a zone of moderate liquefaction potential (County of San Luis Obispo 2013). Additionally, the San Luis Obispo County and SLOFC&WCD Local Hazard Mitigation Plan identifies the community of Oceano and parts of Grover Beach as having a higher potential for liquefaction and states that "site-specific studies are needed to evaluate if a geologic unit actually contains potentially liquefiable materials and if they require mitigation for development" (County of San Luis Obispo 2014). The project area is also relatively flat and therefore has a low landslide potential.

The proposed project would not include development that would cause or exacerbate seismic risks related to fault rupture, ground shaking, or landslides. Compliance with applicable design and construction standards would reduce potential impacts associated with seismic hazards. Therefore, no impacts related to fault rupture, ground shaking, or landslides would occur.

Injection of advanced purified water is included as part of the proposed project to recharge the underlying groundwater basin to counterbalance groundwater pumping by the NCMA agencies. The project would not fill the groundwater basin beyond its natural capacity such that soils underlying the project area become more saturated and prone to liquefaction. Therefore, the proposed project would not exacerbate the existing liquefaction potential of the project area such that direct or indirect adverse effects would occur, such as the risk of loss, injury, or death. In addition, compliance with applicable design and construction standards would reduce potential impacts to

project infrastructure associated with earthquake-induced liquefaction. As a result, impacts related to liquefaction would be less than significant.

Construction of the project would involve excavation, grading, trenching, well drilling, and soil export, which would result in some land and soil disturbance. However, the project would be required to comply with the NPDES *Construction General Permit*, as described in Section 4.8, *Hydrology and Water Quality*. The required SWPPP would address all project components and outline BMPs that would be implemented to reduce erosion and topsoil loss from stormwater runoff. The proposed ATF complex would be subject to the *Central Coast Post-Construction Stormwater Requirements* (Central Coast RWQCB Order R3-2013-0032) and would implement BMPs to reduce sediment discharges and minimize stormwater runoff volumes. BMPs may include low impact development measures such as bioswales and permeable pavement. Specific BMPs and their respective components are subject to the approval of the RWQCB, which will review and approve of all features of the required BMPs. In addition, project components would be subject to the Grover Beach Stormwater Management Plan and San Luis Obispo County Code and Grover Beach Municipal Code sections governing stormwater runoff and the minimum control measures and BMPs contained therein. Compliance with the *Central Coast Post-Construction Stormwater Requirements* and applicable local regulations would mandate BMPs and design features to control stormwater runoff quality and quantity and would minimize impacts related to soil erosion during project construction. Upon buildout, the project would not increase erosion or the loss of topsoil. Therefore, impacts related to erosion and loss of topsoil would be less than significant.

Expansive soils generally contain fine-grained clays that can absorb greater amounts of water than other soils, which causes swelling during the wet season and shrinking during the dry season. This behavior results in cyclical shrink-swell of the soil. The project area consists predominantly of sandy and silt-forming soil deposits that have minimal expansion risk (United States Department of Agriculture 1984 and 2018). The ATF complex, all monitoring and injection wells except IW-5A, IW-5B, and MW-5A/5B/5C, and water distribution pipelines would be located on Oceano sand soils, which typically have less than 10 percent clay and more than 90 percent sand or gravel and have gravel or sand textures (United States Department of Agriculture 2007 and 2018). The majority of Grover Beach is also underlain by Oceano sand soils; therefore, it is likely that the new production well and potential agricultural irrigation pipelines would be located primarily on Oceano sand soils. IW-5A, IW-5B, MW-5A/5B/5C, and some water distribution/agricultural irrigation pipelines would be located on Mocho soils, which typically have between 20 percent and 40 percent clay and less than 50 percent sand (United States Department of Agriculture 2007 and 2017). However, these wells would not include habitable structures. Furthermore, the project would not fill the groundwater basin beyond its natural capacity such that soils underlying the project area become more saturated and prone to expansion. Therefore, the project would not be located on expansive soil and would not create substantial direct or indirect risks to life or property. Impacts related to expansive soils would be less than significant.

The project would involve advanced purification of secondary treated wastewater from the Pismo Beach and SSLOCSD WWTPs. RO concentrate produced during treatment would be discharged via the existing ocean outfall pipeline, and advanced purified water would be injected in the SMGB. Furthermore, the ATF complex would include a connection to the existing sewer system to provide wastewater disposal for the on-site restroom. As such, the project would not require septic tanks or alternative wastewater disposal systems. Therefore, no impacts related to septic tanks or alternative wastewater disposal systems would occur.

A Paleontological Resources Assessment was prepared for the proposed project and is included in full as Appendix I. As discussed therein, the project area includes nine (9) geologic units mapped at the surface: late Holocene Stream Channel Deposits (Qhc); late Holocene alluvial flood-plain deposits (Qa); late Holocene beach sand (Qb); late Holocene dune sand; Holocene to Pleistocene young eolian deposits (Qye), Holocene to late Pleistocene young alluvial valley deposits, Unit 1 (Qay_1) and Unit 2 (Qya_2); late Pleistocene old eolian deposits (Qoe); and early Pliocene to late Miocene Pismo Formation Squire Member (Tps) (Wiegers 2011 and 2013; Holland 2013). Late Holocene stream channel deposits (Qhc), late Holocene alluvial flood-plain deposits (Qa), late Holocene beach sand (Qb) and late Holocene dune sand (Qd) are too young to contain paleontological resources. In addition, Holocene to Pleistocene young eolian deposits (Qye) and Holocene to late Pleistocene young alluvial valley deposits are generally too young at the surface to contain paleontological resources. Eolian deposits are wind-derived and, as such, lack a taphonomy that would support substantial accumulations of paleontological resources; however, older eolian deposits can support important trace fossils in rare instances. Holocene to Pleistocene alluvial deposits have the potential for paleontological resources to be present at unknown depths where the unit exceeds 5,000 years in age. According to Hall (1973), these deposits may have a maximum thickness of 25 to 100 feet, and sediments exceeding 5,000 years in age are unlikely to occur at depths of less than 25 feet. The early Pliocene to late Miocene Pismo Formation, Squire Member (Tps) have the potential to yield significant paleontological resources. Ground-disturbing activities to a maximum depth of 20 feet below ground surface for the ATF complex, water distribution pipeline alignments, and agricultural irrigation pipeline alignments would be unlikely to negatively impact geologic units of high paleontological sensitivity, and thus, would not be likely to negatively impact significant paleontological resources. Drilling activities associated with the installation of groundwater, monitoring, and production wells would involve drilling wells approximately 12 inches in diameter at a depth of up to 600 feet below ground surface. Because these wells may extend up to 600 feet below ground surface, older geologic units of high paleontological sensitivity, such as Pleistocene-age or older deposits, may be impacted at depths greater than 100 feet based on the thicknesses of Hall (1973). Due to constraints in paleontological monitoring during drilling activities and the quality of identifiable fossils exhumed from boreholes during drilling, a process which typically pulverizes sediments and removes the stratigraphic context of any fossil material. However, due to constraints in paleontological monitoring during drilling activities and the quality of identifiable fossils exhumed from boreholes during drilling, a process which typically pulverizes sediments and removes the stratigraphic context of any fossil material, the recovery of significant fossils during well drilling when the drilling diameter is less than three feet, as is the case for the proposed project, is not possible. Therefore, paleontological monitoring is not effective for assessing impacts and not recommended during drilling when the drilling diameter is less than three feet, as is the case for the proposed project. Furthermore, the City would abide by Policy CO-6 in its General Plan and Local Coastal Program (2014), which requires suspension of construction activity in the event that a paleontological resource is disclosed and retention of a qualified archaeologist/paleontologist to examine the site. Construction would not resume until mitigation measures have been developed and carried out to address the impacts of the project on these resources. Therefore, drilling activities are not likely to negatively impact significant paleontological resources and, impacts to paleontological resources would be less than significant (Appendix I).

Cumulative Impacts

Impacts associated with geology and soils are inherently restricted to the locations of project components and would not contribute to cumulative impacts associated with other future developments. Therefore, no cumulative impacts related to geology or soils would occur.

4.12.4 Mineral Resources

Potential Environmental Effects

- Would the project 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?
- Would the project 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?

Reasons Why Effects Were Not Found Significant

The project area is located immediately north of an identified mineral resource zone for specialty sands (California Geological Survey 2011). The closest project components with known locations to this area would be IW-5A, IW-5B, and MW-5A/5B/5C. In addition, agricultural irrigation pipelines would extend through the agricultural lands to the south of Oceano, some of which are adjacent to this mineral resource zone. However, placement of injection and monitoring wells and agricultural irrigation pipelines at these locations would not result in the loss of availability of a known mineral resource. The project area is located primarily within urbanized and agricultural areas and on properties unlikely to be used for mineral resource extraction in the foreseeable future. In addition, no parcels in the project area are designated or zoned for mineral resource extraction. No mineral resource recovery sites have been identified by any local plans within the project area although offshore oil operations exist in the region (County of San Luis Obispo 2017; City of Grover Beach 2020). Therefore, no impacts to mineral resources would occur.

4.12.5 Population/Housing

Potential Environmental Effects

- Would the project induce substantial unplanned 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)?
- Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Reasons Why Effects Were Not Found Significant

The proposed project is a water infrastructure project that would not directly generate population growth through construction of housing or creation of substantial employment opportunities. The project would accommodate approximately 15 new employees; however, given the nature of the proposed project, it is likely that these employees would be drawn from the existing, local workforce and would not indirectly result in the relocation of people to the project area. Furthermore, the project is intended to improve water supply reliability; create a sustainable, drought-resistant local water supply for southern San Luis Obispo County; and provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion. Therefore,

the project would not induce substantial unplanned population growth because it would not expand future water supplies but rather enhance the existing water supply. No impact would occur.

The project would not require demolition of existing housing nor create long-term disturbances to residential land uses that would lead to the displacement of substantial numbers of people and necessitate construction of replacement housing. It would not affect the availability of sewer or water services to existing residents and would not indirectly cause long-term displacement as a result of service interruption. Therefore, no impact would occur.

4.12.6 Public Services

Potential Environmental Effects

- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the 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?
  - Police protection?
  - Schools?
  - Parks?
  - Other public facilities?

Reasons Why Effects Were Not Found Significant

Project components would be built within the existing service area of fire and police protection services. Police stations closest to the project area include the Grover Beach Police Department at 711 Rockaway Avenue in Grover Beach, Pismo Beach Police Department at 1000 Bello Street in Pismo Beach north of the project area, and San Luis Obispo Sheriff's Department at 1042 Walnut Street in San Luis Obispo County south of the project area. Fire stations closest to the project area include the Five Cities Fire Authority – Station 2 at 701 Rockaway Avenue in Grover Beach, CAL FIRE/Pismo Beach Fire Department north of the project area at 990 Bello Street in Pismo Beach, and the Five Cities Fire Authority – Station 3 at 1655 Front Street in Oceano. Operation and maintenance activities associated with the project would be minimal, and project components would not present unusual fire protection or police protection concerns. Therefore, the proposed project would not substantially increase the need for new fire protection or police protection staff and would not result in a need for new or physically altered fire protection or police protection facilities.

The project would not include residential or commercial development that would directly induce population growth or change existing demand for public services. Furthermore, as discussed in Section 4.12.5, *Population/Housing*, the project would not expand future water supplies and therefore would not indirectly induce population growth. As a result, the project would not increase demand for fire protection services, police protection services, schools, parks, or other public facilities such as libraries. No impacts to public services would occur.

4.12.7 Recreation

Potential Environmental Effects

- 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?
- 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?

Reasons Why Effects Were Not Found Significant

The proposed project would include construction of an ATF complex, water distribution/agricultural irrigation pipelines, and injection/monitoring/production wells. It would not construct housing or increase the residential population within the project area. As discussed in Section 4.12.5, *Population and Housing*, the project would enhance existing water supply and would not result in substantial or unplanned population growth. It would therefore not result in additional people who may use the existing recreational facilities, and as such, the project would not increase the use of existing neighborhood or regional parks or other recreational facilities.

IW-1, IW-2A, IW-2B, IW-3, IW-4, MW-2A/2B/2C, and MW-4A/4B would be located in the County of San Luis Obispo Coastal Dunes RV Park and Campground. Construction activities would require the temporary closure of several sites near each injection well for the duration of construction. However, construction activities would be scheduled to occur during the off-season to reduce impacts to recreational activities in the Coastal Dunes RV Parks and Campground. Additionally, several other campgrounds are available in the vicinity, such as Oceano Campground and North Beach Campground. Therefore, construction-related recreation impacts due to disruption would be less than significant.

As described in Section 2, *Project Description*, construction of IW-2A, IW-2B, IW-3, and IW-4 would permanently preclude the use of up to two campsites per well in the Coastal Dunes RV Park and Campground for a total loss of approximately eight campsites. Monitoring wells would be placed in on-site roadways and would not interfere with campground operations. Given that there are over 230 campsites throughout the park, the project would affect approximately three percent of campsites (County of San Luis Obispo Parks and Recreation Department 2019), which would not represent a substantial change in the number of sites available for use. Additionally, as part of the project, the City would negotiate a cost agreement with the County of San Luis Obispo Parks and Recreation Department to offset lost revenue from recreational use of these campsites. Therefore, the project would not increase or require the construction or expansion of recreational facilities or affect the maintenance of the affected facility. Operational impacts to recreation would be less than significant.

Cumulative Impacts

As shown in Figure 3-2 in Section 3, *Environmental Setting*, the only other project in the project area proposed within a recreational facility is located at 928 Pacific Boulevard in Pismo State Beach and consists of the demolition of an existing commercial building and construction of a new office building. This project would be located within the portion of Pismo State Beach that is currently developed for administrative, rather than recreational, purposes. Therefore, no cumulative impact to recreational facilities would occur.

4.12.8 Utilities/Service Systems

Potential Environmental Effects

- Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- Would the project 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?
- Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Reasons Why Effects Were Not Found Significant

The project would provide advanced treatment of up to 5.4 mgd of secondary treated wastewater. At full capacity, approximately 3.9 mgd of advanced purified water would be produced and injected into the SMGB to develop a seawater intrusion barrier to protect the existing groundwater supply in the NCMA. The project would be an addition to the existing wastewater treatment facilities at the Pismo Beach and SSLOCSD WWTPs. The environmental impacts of the ATF complex and associated infrastructure are discussed throughout this EIR. No additional impacts beyond those identified herein would occur.

The ATF complex would require connections to existing water supply and sewer infrastructure to provide water for on-site employee use in the restrooms, kitchen, and break room. The ATF complex would also require electric power connections to supply electricity for the treatment process, natural gas connections for space heating, and telecommunications connections for telephone and Internet usage on site. Given that the ATF complex would be located in an urbanized location, it would not require extension of these utilities. In addition, the incremental increase in water demand and wastewater generation would not result in the construction of new or expanded water or wastewater treatment plants. No impact would occur.

As detailed in Section 4.8, *Hydrology and Water Quality*, the proposed project would also include on-site stormwater drainage features to comply with the Central Coast Post-Construction Stormwater Requirements (Central Coast RWQCB Order R3-2013-0032). BMPs may include low-impact development measures such as bioswales and permeable pavement. In addition, the project components would be subject to local Stormwater Management Plans and municipal code sections governing stormwater runoff, and the minimum control measures and BMPs contained therein. Therefore, as discussed in Section 4.8, *Hydrology/Water Quality*, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. Therefore, no new off-site stormwater drainage facilities would be necessary, and no impact would occur.

Water distribution pipelines, agricultural irrigation pipelines, injection wells, monitoring wells, and the new production well would be designed and sited to avoid conflict with existing underground utilities, including existing water and sewer lines owned and maintained by OCSD and the City of Grover Beach and power, gas, and telecommunications facilities. An Underground Services Alert search is standard practice for design of water supply infrastructure. Existing utilities may need to be relocated to accommodate the proposed project; however, relocation of these utilities would not result in environmental impacts beyond those identified in this EIR because existing utilities would be relocated within the same public right-of-way in which they are currently located. Therefore, no impact would occur.

As stated in Section 2, *Project Description*, the ATF complex would be located in Grover Beach, where the City of Grover Beach Public Works Department provides water supply. Water demand generated by the restrooms, kitchen, and break room at the ATF complex would be minimal. Therefore, there would be sufficient water supplies available to serve the project. Furthermore, the proposed project would create sustainable, drought-resistant local water supply for southern San Luis Obispo County and provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion, thereby enhancing and increasing the reliability of groundwater supplies, especially during dry years. As a result, the proposed project would have a beneficial impact to water supplies used by NCMA agencies.

The proposed ATF complex would process secondary treated wastewater from the existing Pismo Beach and SSLOCSD WWTPs. Advanced purified wastewater would be injected into the SMGB to enhance existing local groundwater supply. As a result of the project, NCMA agencies would likely increase their groundwater pumping rates as compared to recent years because reduced pumping rates would no longer be necessary to protect the groundwater supply from seawater intrusion. In addition, the project includes a new production well to optimize groundwater production. However, groundwater pumping would remain below historical 2009 rates, and NCMA agencies would still be required to adhere to the pumping limitations established in the SMGB Adjudication Judgment. The project does not propose to increase the groundwater allocations for any of the NCMA agencies. Overall, the proposed project would not have an adverse impact on regional water supplies.

The wastewater produced at the WWTPs is currently discharged to the Pacific Ocean via the existing ocean outfall. The Pismo Beach WWTP currently treats an average of 0.9 mgd, and the SSLOCSD WWTP currently treats approximately 2.4 mgd of wastewater. Wastewater generated by the project would include wastewater from the on-site ATF complex restrooms as well as RO concentrate. The increase in wastewater from the ATF complex restrooms would be minimal and well within the permitted treatment capacities of both the Pismo Beach WWTP and SSLOCSD WWTP. As discussed in Section 4.8, *Hydrology/Water Quality*, the RO concentrate would comply with NPDES permit standards and would not be treated by the existing WWTPs prior to discharge via the existing ocean outfall. Therefore, the project would not require or result in the construction of new or expanded water or wastewater treatment facilities other than those proposed and evaluated within this EIR. No impact would occur.

Solid waste generated in the project area is disposed of at Cold Canyon Landfill. Cold Canyon Landfill has a maximum permitted throughput of 1,650 tons per day and a remaining capacity of 14.5 million cubic yards of its maximum permitted capacity of 23.9 million cubic yards as of 2015 (California Department of Resources Recycling and Recovery 2015). Solid waste disposal during construction activities would be a one-time, temporary impact and would not cause the Cold Canyon Landfill to exceed its permitted capacity. Construction activities would also be required to meet the CalGreen construction and demolition diversion rate of 65 percent. Based on the air quality and greenhouse

gas modeling prepared for the project, operation of the project would generate approximately 31 tons per year of solid waste from employee activities, component replacement, and similar activities (Appendix C). Operational waste would therefore be approximately 0.08 ton per day, which is less than 0.01 percent of Cold Canyon Landfill's permitted daily throughput. Therefore, project operation would not be in excess of the capacity of local solid waste infrastructure. The project would be constructed and operated in compliance with all applicable solid waste regulations. No impacts related to solid waste would occur.

4.12.9 Wildfire

Potential Environmental Effects

- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:
  - Substantially impair an adopted emergency response plan or emergency evacuation plan?
  - Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
  - Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
  - Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Reasons Why Effects Were Not Found Significant

As discussed in Section 4.7, *Hazards and Hazardous Materials*, the project area is not within a Very High Fire Hazard Severity Zone, although some lands near Oceano are within state responsibility areas. In general, the project area is not at elevated risk for wildfire, as described in Section 4.7, and the distance between the nearest known project component (MW-1C/1D) and a Very High Fire Hazard Severity Zone is approximately 1.3 miles. Project impacts related to emergency response plans and emergency evacuation plans are discussed in Section 4.7, *Hazards and Hazardous Materials*, and Section 4.11, *Transportation*. Impacts would be less than significant with implementation of Mitigation Measure T-1. No additional impacts beyond those already identified would occur due to the project area's proximity to state responsibility areas.

The project would not include components that would exacerbate wildfire risk and therefore would not expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. No impact would occur. The project would not require installation or maintenance of associated infrastructure that may exacerbate fire risk or that would result in temporary or ongoing impacts to the environment; therefore, no impact would occur.

The project area covers a relatively flat coastal region and is located in an area of low landslide potential. As discussed in Section 4.8, *Hydrology/Water Quality*, the project would not result in substantial alterations of existing drainage patterns. Therefore, the project would not expose people or structures to significant risks of flooding or landslide as a result of runoff, post-fire slope instability or drainage changes, and no impact would occur. The project would not permanently exacerbate any wildfire risk, and no impact would occur.

Cumulative Impacts

The geographic scope for cumulative impacts related to wildfire hazards is the project area and immediate vicinity. As shown in Figure 3-1 in Section 3, *Environmental Setting*, cumulative projects would not be located in a VHFHSZ and are not anticipated to exacerbate the risk of wildfire or be built in areas with very high fire risk. No significant cumulative impact related to wildfires would occur.

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5 Federal Cross-Cutting Environmental Regulations Evaluation

The proposed project may receive funding from the Clean Water State Revolving Fund, which is administered by the SWRCB on behalf of the USEPA. Therefore, to assist in compliance with the federal environmental requirements for the funding program, this document includes analysis pertinent to several federal cross-cutting regulations (also referred to as federal cross-cutters or CEQA-Plus).

This section describes the status of compliance with relevant federal laws, executive orders, and policies, and the consultation that has occurred to date or will occur in the future. The topics are based in part on the SWRCB's Clean Water State Revolving Fund Program Federal Cross-cutting Environmental Regulations Evaluation Form for Environmental Review and Federal Coordination. This section focuses on project components with known locations, which may receive funding under the City's initial Clean Water State Revolving Fund application. Project components with unknown locations would require supplemental environmental review prior to pursuing Clean Water State Revolving Fund funding; therefore, compliance with federal environmental requirements will be discussed at the time of the supplemental environmental review.

5.1 Federal Endangered Species Act

Section 7 of the federal Endangered Species Act requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species. Under Section 7, a project that could result in incidental take of a listed threatened or endangered species must consult with the USFWS to obtain a Biological Opinion. If the Biological Opinion finds that the project could jeopardize the existence of a listed species ("jeopardy opinion"), the agency cannot authorize the project until it is modified to obtain a "nonjeopardy" opinion.

Section 4.2, *Biological Resources*, describes that the project site contains suitable habitat for special status plant and wildlife species. Of the 59 special status plant species and 33 special status wildlife species that are known to or have the potential to occur within the vicinity of the project area, one federally threatened species, the CRLF, has the potential to occur within the footprints of IW-5A, IW-5B, and MW-5A/5B/5C as well as portions of the water distribution pipeline alignments adjacent to potentially suitable dispersal habitat for the CRLF in the form of arroyo willow riparian within 50 feet of Arroyo Grande Creek. No CRLF individuals were observed within the project area during the survey effort. Given the potential for direct and indirect impacts to CRLF individuals as well as direct impacts to CRLF habitat, impacts to CRLF would be potentially significant. Mitigation Measures BIO-1(a) and BIO-1(c), which include avoidance of CRLF habitat and implementation of avoidance and minimization measures for CRLF during construction activities, would be required to reduce impacts to a less-than-significant level. In addition, since the project site provides general nesting bird habitat, compliance with MBTA requirements would be required to reduce impacts to nesting birds to a less-than-significant level (Mitigation Measure BIO-1[e]). Thus, with implementation of Mitigation Measures BIO-1(a), BIO-1(c), and BIO-1(e), the proposed project would not jeopardize

any federally listed species and the lead agency would be in compliance with the federal Endangered Species Act and the MBTA.

5.2 National Historic Preservation Act, Section 106

The purpose of the NHPA is to protect, preserve, rehabilitate, or restore significant historical, archaeological, and cultural resources. Section 106 requires federal agencies to take into account effects on historic properties. Section 106 review involves a step-by-step procedure described in detail in the implementing regulations (36 Code of Federal Regulations Part 800).

As described in Section 4.3, *Cultural Resources*, a cultural resource assessment was conducted for the proposed project, which is included as Appendix E. The assessment was completed in compliance with Section 106 of the NHPA and can be submitted as part of the consultation process with the State Historic Preservation Officer. Concurrence by State Historic Preservation Officer would ensure compliance with the NHPA. The Area of Potential Effect for a project is defined in 36 Code of Federal Regulations 800.16(d) as the "geographic area or areas within which a project may directly or indirectly cause changes in the character or use of historic properties if any such property exists." Historic properties are those significant cultural resources listed in or are eligible for listing in the National Register of Historic Places per the following criteria (36 Code of Federal Regulations 60.4):

(A) Are associated with events that have made a significant contribution to the broad patterns of our history

(B) Are associated with the lives of persons significant to our past

(C) Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components that may lack individual distinction

(D) Have yielded, or may be likely to yield, information import in prehistory or history

As discussed in Section 4.3, *Cultural Resources*, no historic properties were identified within the Area of Potential Effect that would be impacted by the proposed project. Therefore, the project would result in no effect to historic properties under Section 106 of NHPA.

5.3 Clean Air Act

The U.S. Congress adopted general conformity requirements as part of the federal CAA Amendments in 1990, and USEPA implemented those requirements in 1993 (Section 176 of the FCAA [42 United States Code § 7506] and 40 Code of Federal Regulations Part 93, Subpart B). General conformity requires that all federal actions "conform" with the State Implementation Plan as approved or promulgated by USEPA. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine State or local efforts to achieve and maintain the NAAQS. Before a federal action is taken, it must be evaluated for conformity with the State Implementation Plan. All "reasonably foreseeable" emissions predicted to result from the action are taken into consideration. These include direct and indirect emissions, and must be identified as to location and quantity. If it is found that the action would create emissions above *de minimis* threshold levels specified in USEPA regulations (40 Code of Federal Regulations § 93.153[b]), or if the activity is considered "regionally significant" because its emissions exceed 10

percent of an area's total emissions, the action cannot proceed unless mitigation measures are specified that would bring the proposed project into conformance.

As described in Section 4.1, *Air Quality*, the project area lies within the western portion of San Luis Obispo County, which is designated attainment for all NAAQS. Therefore, under the General Conformity Rule, there are no applicable *de minimis* thresholds for the proposed project. As such, because the proposed project would not exceed an applicable *de minimis threshold,* general conformity requirements do not apply, and the proposed project is exempt from a conformity determination. Accordingly, the lead agency would be in compliance with the FCAA.

5.4 Coastal Zone Management Act

The Coastal Zone Management Act, passed by Congress in 1972 and managed by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, is designed to balance competing land and water issues in coastal zones. It also aims to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." Within California, the Coastal Zone Management Act is administered by the Bay Conservation and Development Commission, the California Coastal Conservancy, and the California Coastal Commission.

Several project components would be located within the coastal zone, and the project sponsors would be required to obtain Coastal Development Permits prior to construction. Therefore, the lead agency would be in compliance with the Coastal Zone Management Act.

5.5 Farmland Protection Policy Act

The Farmland Protection Policy Act requires a federal agency to consider the effects of its actions and programs on the nation's farmlands. The Farmland Protection Policy Act is intended to minimize the impact of federal programs with respect to the conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with State, local, and private programs and policies to protect farmland.

As described in Section 4.12, *Effects Found Not to Be Significant*, the proposed project would not adversely impact any agricultural lands. Therefore, the lead agency would be in compliance with the Farmland Protection Policy Act.

5.6 Executive Order 11988 – Floodplain Management

EO 11988 requires federal agencies to recognize the values of floodplains and to consider the public benefits from restoring and preserving floodplains.

As described in Section 4.8, *Hydrology and Water Quality*, the following project components would be located within the 100-year Flood Hazard Area:

- Five injection wells (IW-1, IW-2A, IW-2B, IW-5A, and IW-5B)
- One monitoring well (MW-5A/5B/5C)
- Some water distribution pipelines

Upon completion of construction, the proposed water distribution pipelines would be located entirely underground and would not interfere with the floodplain. Furthermore, the proposed

injection and monitoring wells would be located primarily underground with relatively small aboveground footprints (approximately 3,000 square feet for the injection wells[1] and approximately 25 square feet for the monitoring wells). In addition, these wells would be located within the development footprint of existing land uses (i.e., the Coastal Dunes RV Park and Campground and the SSLOCSD WWTP property). Therefore, these project components would have a negligible impact on the floodplain. As such, the lead agency would be in compliance with this EO.

5.7 Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13168

The MBTA and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 requires that any project with federal involvement address impacts of federal actions on migratory birds.

As described in Section 4.2, *Biological Resources*, the proposed project would have a less-than-significant impact on nesting birds protected under the MBTA with implementation of Mitigation Measure BIO-1(e) if construction cannot be avoided during nesting season. Thus, with implementation of Mitigation Measure BIO-1(e), the lead agency would be in compliance with this EO.

5.8 Executive Order 11990 – Protection of Wetlands

Under EO 11990, federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available.

As described in Section 4.2, *Biological Resources*, the project site supports potential federally protected wetlands as defined by Clean Water Act Section 404 adjacent to Meadow Creek and Arroyo Grande Creek. As described in Section 4.2, *Biological Resources*, the proposed project would have less-than-significant impact on wetlands defined by Clean Water Act Section 404 with implementation of Mitigation Measures BIO-3(a) and BIO-3(b). Thus, the lead agency would be in compliance with EO 11990.

5.9 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was passed in 1968 to preserve and protect designated rivers for their natural, cultural, and recreational value.

There are no designated Wild and Scenic Rivers within the project area, nor will any designated rivers be adversely affected by the proposed project (National Wild and Scenic Rivers System 2019). As a result, the Wild and Scenic Rivers Act does not apply to the proposed project.

[1] This is a conservative assumption of the footprint of each injection well.

5.10 Safe Drinking Water Act – Source Water Protection

Section 1424(e) of the Safe Drinking Water Act established the USEPA's Sole Source Aquifer Program. This program protects communities from groundwater contamination from federally funded projects.

Within USEPA's Region 9, which includes California, there are nine sole source aquifers. None of these sole source aquifers are located within the project area (USEPA 2019). Therefore, the Sole Source Aquifer Program does not apply to the proposed project, and the lead agency would be in compliance with Section 1424(e) of the Safe Drinking Water Act.

5.11 Executive Order on Trails for America in the 21st Century

The EO on Trails for America requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. Existing trails located within and adjacent to the project area include the Lagoon Trail, which loops around Oceano Lagoon west of State Route 1; the Meadow Creek Trail, which runs adjacent to Meadow Creek between Nacimiento Avenue to 4th Street; and several trails through Pismo State Beach east of State Route 1, including the Beach Trail and Dune Trail (California State Parks 2016; City of Grover Beach 2019). The County of San Luis Obispo Parks Department does not identify any County trails within the project area (County of San Luis Obispo 2019). Project construction and operation would not impact any existing trails because no temporary or permanent trail closures would be required. Furthermore, project components would not be located on or interfere with the planned route of the Beach Cities Multi-Purpose Trail through Pismo State Beach and Pismo Lakes Ecological Reserve (RRM Design Group 2019). As a result, no adverse effects on trails would occur, and the lead agency is in compliance with this EO.

5.12 Executive Order 13007 – Indian Sacred Sites

Sacred sites are defined in EO 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

The proposed project would not be located on or impact any federal lands and therefore would not affect any Indian sacred sites under EO 13007.

5.13 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976 as amended (16 United States Code § 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the 3-nautical-mile state territorial sea limit to the outer limit of the U.S. Exclusive Economic Zone. It establishes exclusive U.S. management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory

range except when in a foreign nation's waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with the National Marine Fisheries Service on actions that could damage Essential Fish Habitat, as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297).

The proposed project would not be located in or impact any U.S. federal waters regulated under the Magnuson-Stevens Act.[2] Essential Fish Habitat includes those habitats that support the different life stages of each managed species. A single species may use many different habitats throughout its life to support breeding, spawning, nursery, feeding, and protection functions. Essential Fish Habitat can consist of both the water column and the underlying surface (e.g., streambed) of a particular area. The project area is located primarily within developed/landscaped land and existing roadways. As described in Section 4.2, Biological Resources, the project is not expected to have adverse effect on resident or migratory fish, wildlife species, or fish habitat in the project area.

5.14 Executive Order 12898 - Environmental Justice

EO 12898, known as the federal environmental justice policy, requires federal agencies to address to the greatest extent practicable and permitted by law the disproportionately high adverse human health and environmental impacts of their programs, policies, and activities on minority and low-income populations in the United States. EO 12898 also directs each agency to develop its own strategy to implement environmental justice.

As discussed in Section 4.5, *Environmental Justice*, the entire project area, which includes both Oceano and Grover Beach, is identified as an environmental justice community because of the substantial minority populations in both communities and the high levels of poverty in Oceano. However, most of the potentially significant environmental impacts would be reduced to a less-than-significant level through incorporation of mitigation measures. The project's significant and unavoidable construction noise impact would be evenly distributed throughout the project area at 18 well locations, not focused on a single area. Therefore, this impact would not affect one area or population more than another. Furthermore, construction noise impacts would be short-term, temporary, and typical of construction projects occurring throughout the region, which often generate temporary increases in noise. Therefore, although this impact would occur in the environmental justice communities of Oceano and Grover Beach, this impact would not be disproportionately high and adverse, and the lead agency would be in compliance with EO 12898.

[2] The existing ocean outfall pipeline extends approximately 0.5 mile off the coast and therefore falls within the state territorial sea limit, which extends three nautical miles (i.e., 3.5 miles) offshore.

6 Other CEQA Required Discussions

This section discusses other issues for which CEQA requires analysis in addition to the specific issue areas discussed in Section 4.0, *Environmental Impact Analysis*. These additional issues include: the potential to induce population growth and/or economic expansion; establishment of a precedent-setting action; development or encroachment in an isolated or adjacent area of open space; removal of obstacles to growth; and significant and irreversible impacts on the environment. The project area in this section is defined as the NCMA.

6.1 Growth Inducement

Section 15126(d) of the CEQA Guidelines requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth itself does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. Generally speaking, a project may be considered growth-inducing if it results in one or more of the five conditions identified below:

1. Induces population growth
2. Induces economic expansion
3. Establishes a precedent-setting action (e.g., an innovation, a radical change in zoning or general plan designation)
4. Results in development or encroachment in an isolated or adjacent area of open space (i.e., being distinct from "infill" development)
5. Removes an impediment to growth (e.g., the establishment of an essential public service or the provision of new access to an area)

A proposed project's growth-inducing potential is considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas.

6.1.1 Population Growth

The proposed project is a water infrastructure project that would improve water supply reliability; create a sustainable, drought-resistant local water supply for southern San Luis Obispo County; and provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion. As discussed in Section 4.12, *Effects Found Not to Be Significant*, the project would not directly induce population because it does not include residential land uses. Furthermore, the project would not indirectly induce population growth because it would not expand future water supplies, but rather enhance the existing water supply. As discussed in Section 4.8, *Hydrology and Water Quality*, the NCMA agencies would likely increase their groundwater pumping rates as compared to recent years as a result of the proposed project because reduced pumping rates would no longer be necessary to protect the groundwater supply from seawater intrusion. However, groundwater pumping would still be below historic 2009 rates, and the NCMA agencies would still be required to adhere to the pumping limitations established in the SMGB Adjudication Judgment, the provisions of which are detailed in Section 4.8.1(b) in Section 4.8, *Hydrology and Water Quality*.

The project does not propose to increase the groundwater allocations for any of the NCMA agencies. The allocations for urban use by each of the NCMA agencies are as follows (NCMA 2018):

- City of Pismo Beach: 700 AFY
- City of Grover Beach: 1,407 AFY[1]
- City of Arroyo Grande: 1,323 AFY[2]
- Oceano Community Services District: 900 AFY

The Urban Water Management Plans for the Cities of Pismo Beach, Grover Beach, and Arroyo Grande anticipate full use of each city's groundwater allocation in calculating the supply sources available to meet projected water demand in normal year, single dry year, and multiple dry year scenarios (City of Pismo Beach 2016; City of Grover Beach 2011; City of Arroyo Grande 2017).[3] As a result, the proposed project would not induce unplanned population growth but would support NCMA agencies in meeting demand generated by the existing population, activities, and land uses in the project area and would be consistent with water planning policies and projections for the NCMA, particularly in light of California's ongoing challenges with drought conditions.

6.1.2 Economic Growth

Given the relatively small scale of the proposed project, construction activities would utilize skilled and general workers from the existing regional workforce to fill these temporary employment opportunities. Because construction workers would be expected to be drawn from the existing regional workforce, construction of the project would not be growth-inducing from a temporary employment standpoint. Upon completion, the proposed project would require approximately 15 permanent employees for operations and maintenance activities; however, this increase in job opportunities would be a negligible addition to the amount of long-term employment opportunities currently available in the project area. As a result, the proposed project would not induce substantial economic expansion such that direct physical environmental effects would result. Moreover, the environmental effects associated with any future development in or around the project area would be addressed as part of the CEQA environmental review for such development projects.

6.1.3 Precedent-Setting Action

The proposed project does not propose any General Plan or zoning amendments. As discussed in Section 4.9, *Land Use*, the proposed project would be consistent with the land use and zoning designations of Grover Beach and San Luis Obispo County. Furthermore, the proposed project is a water infrastructure project that would improve water supply reliability rather than create opportunities to expand existing water supplies. As such, the project would not set a precedent that would result in new growth-inducing impacts in the area.

[1] Includes an agricultural conversion credit of 209 AFY.
[2] Includes an agricultural conversion credit of 121 AFY.
[3] Per California Water Code Section 10620, Oceano Community Services District is not required to prepare an urban water management plan because it is not classified as an urban water supplier. Per California Water Code Section 10617, an "urban water supplier" is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 AFY of water.

6.1.4 Development of Open Space/Vacant Land

Development of open space is considered growth-inducing when it occurs outside urban boundaries or in isolated locations instead of infill areas. The proposed project is located in an urbanized area and would purify water for groundwater injection and potentially irrigation of existing agricultural lands to the south of Oceano. As a result, the project would not result in the development of open space or vacant land in isolated areas that could induce growth at the periphery of developed areas within Oceano or Grover Beach.

6.1.5 Removal of an Impediment to Growth

The proposed project is located in an urbanized area that is well-served by existing infrastructure. Existing infrastructure associated with utilities and transportation networks would be adequate to serve the proposed project during construction and operation. As discussed under Section 6.1.1, *Population Growth*, the water that is treated, stored, and injected under the proposed project would be utilized to stabilize and protect existing groundwater supplies for regional water supply reliability. Accordingly, the proposed project would not remove existing obstacles to growth.

6.2 Significant Unavoidable Effects

CEQA Guidelines Section 15126(b) requires that an EIR identify those significant impacts that cannot be reduced to a less-than-significant level with the application of mitigation measures. As discussed in Section 4.10, *Noise*, project construction would generate a substantial temporary increase in ambient noise levels in the vicinity of project components in excess of local standards during project construction. Although implementation of Mitigation Measure N-1 would be required to address this impact, it may not be feasible to reduce all construction noise impacts below the applicable thresholds. Therefore, nighttime construction noise impacts during 24-hour well drilling activities would be significant and unavoidable. As discussed in Section 4.9, *Land Use*, the significant and unavoidable temporary increase in ambient noise levels during project construction would result in an exceedance of the noise level standards contained in the SLOCC. As a result, construction noise during 24-hour well drilling activities would conflict with applicable land use plans, policies, and regulations. The resulting land use impact would be significant and unavoidable because although implementation of Mitigation Measure N-1 would be required, it may not be feasible to reduce all construction noise impacts below the applicable standards.

6.3 Significant Irreversible Environmental Effects

CEQA Guidelines Section 15126.2(c) requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Such significant irreversible environmental changes may include the following:

- Use of non-renewable resources during the initial and continued phases of the project that would be irreversible because a large commitment of such resources makes removal or non-use unlikely
- Primary impacts and, particularly secondary impacts (such as highway improvements that provide access to a previously inaccessible area) that generally commit future generations to similar uses
- Irreversible damage which may result from environmental accidents associated with the project

Construction of the proposed project would require the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development projects in the region and are not unique to the project. Operation of the project would irreversibly increase local demand for non-renewable energy resources such as petroleum and natural gas for vehicle fuels, space heating, and generation of electricity. Increasingly efficient building fixtures and automobile engines as well as implementation of the State Renewable Portfolio Standard are expected to offset the demand to some degree. It is not anticipated that the proposed project would significantly affect local or regional energy supplies. Section 4.4, *Energy*, includes a full analysis of potential impacts related to energy resources by construction and operation of the proposed project.

The proposed project would incrementally contribute local traffic, increase ambient noise levels, and generate regional air pollutant and greenhouse gas emissions throughout the duration of project operation. These topics are discussed in Section 4.1, *Air Quality*, Section 4.6, *Greenhouse Gas Emissions*, Section 4.10, *Noise*, and Section 4.11, *Transportation/Traffic*. However, these impacts would be less than significant with implementation of Mitigation Measures GHG-2 and N-2.

As discussed in Section 4.6, *Hazards and Hazardous Materials*, the proposed project may result in reasonably foreseeable accidental spills and/or releases of hazardous materials at the ATF complex location, and implementation of Mitigation Measures HAZ-1(b) would be required to reduce impacts to a less-than-significant level. However, given the limited quantities and nature of hazardous materials to be used during project operation, these accidental spills and/or releases would not result in irreversible environmental damage.

7 Alternatives

As required by Section 15126.6 of the CEQA Guidelines, this EIR examines a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives (stated in Section 2, *Project Description*, of this EIR) but would avoid or substantially lessen the significant adverse impacts.

As discussed in Section 2, *Project Description*, the objectives for the proposed project, are as follows:

1. Produce advanced purified water of a quality that can safely be used to augment groundwater supply while maintaining or improving existing groundwater quality
2. Create a sustainable, drought-resistant, local water supply and improve water supply reliability for southern San Luis Obispo County
3. Provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion
4. Reduce wastewater discharges to the ocean and maximize utilization of local water supplies
5. Facilitate continued water resources collaboration in the NCMA

Included in this analysis are six alternatives, including the CEQA-required "no project" alternative, that involve changes to the project that may reduce project-related environmental impacts as identified in this EIR, including the project's significant and unavoidable construction noise and land use impacts, or provide alternative siting options for certain project components. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project
- Alternative 2: No Agricultural Irrigation Pipelines
- Alternative 3: ATF Complex at SSLOCSD WWTP
- Alternative 4: Modified Layout of Injection and Monitoring Wells
- Alternative 5: Increased State Water Project Allocation
- Alternative 6: Increased Storage of Lopez Reservoir

Table 7-1 provides a summary comparison of the characteristics of the proposed project and each of the alternatives considered. Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 7.1 through 7.6.

Table 7-1 Comparison of Project Alternatives' Buildout Characteristics

Feature	Proposed Project	Alternative 1: No Project	Alternative 2: No Agricultural Irrigation Pipelines	Alternative 3: ATF Complex at SSLOCSD WWTP	Alternative 4: Modified Layout of Injection and Monitoring Wells	Alternative 5: Increased State Water Project Allocation	Alternative 6: Increased Storage of Lopez Reservoir
Injection and Monitoring Wells	7 injection wells and 10 monitoring wells	None	7 injection wells and 10 monitoring wells	7 injection wells and 10 monitoring wells	7 injection wells and 10 monitoring wells	None	None
Production Well	One production well	None	One production well	One production well	One production well	None	None
Water Distribution Pipelines	Approximately 18,000 linear feet	None	Approximately 18,000 linear feet	Approximately 10,000 linear feet	Approximately 18,000 linear feet	None	None
ATF and Appurtenant Structures[1]	Located at 980 Huber Street in Grover Beach	None	Located at 980 Huber Street in Grover Beach	Located at SSLOCSD WWTP property at 1600 Aloha Place in Oceano	Located at 980 Huber Street, Grover Beach	None	None
Agricultural Irrigation	Portion of water potentially used for lands generally south of Oceano	None	None	Portion of water potentially used for lands generally south of Oceano	Portion of water potentially used for lands generally south of Oceano	None	None
Water Supply	Up to 3,566 AFY	None	Up to 3,566 AFY	Up to 3,566 AFY	Up to 3,566 AFY	Up to 3,566 AFY	Up to 1,000 AFY
Groundwater Recharge	Yes	None	Yes	Yes	Yes	No	No
Augments Local Water Supplies	Yes	No	Yes[2]	Yes	Yes	No	No
Quantity of Secondary Treated Effluent Discharged to the Ocean	Decrease from existing conditions	Same as existing conditions	Decrease from existing conditions[3]	Decrease from existing conditions	Decrease from existing conditions	Same as existing conditions	Same as existing conditions

ATF = advanced treatment facility; SSLOCSD = South San Luis Obispo County Sanitation District; WWTP = wastewater treatment plant; AFY = acre-feet per year

[1] Includes equalization basin, advanced purified water storage tank, and pump station.

[2] The augmentation of local water supplies in this alternative would potentially be greater than the augmentation under the proposed project, Alternative 3, and Alternative 4 because more advanced purified water may be used for groundwater injection.

[3] The decrease in discharge of secondary treated effluent to the Pacific Ocean under Alternative 2 would potentially be less than the decrease under the proposed project, Alternative 3, and Alternative 4 because the ATF complex may be designed with less production capacity given that no recycled water would be used for agricultural irrigation.

7.1 Alternative 1: No Project Alternative

7.1.1 Description

The No Project Alternative assumes that the proposed ATF complex, water distribution pipelines, injection wells, monitoring wells, new production well, and agricultural irrigation pipelines are not constructed. The full volume of secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs continues to be discharged to the ocean via the outfall pipeline. No seawater intrusion barrier is developed, and no additional recharge of the SMGB occurs. In addition, no recycled water is provided for agricultural irrigation.

7.1.2 Impact Analysis

No change in environmental conditions would occur under this alternative because no development would occur and site conditions would not change. This alternative would avoid the proposed project's significant and unavoidable construction noise and land use impacts related to 24-hour well drilling activities and significant, but mitigable impacts in the areas of air quality, biological resources, cultural resources, environmental justice, GHG emissions, hazards, hydrology and water quality, vibration, operational noise, and transportation. No significant impacts would occur under this alternative, and none of the mitigation measures recommended for the proposed project would apply.

Overall, this alternative's impacts would be less than those of the proposed project, and this alternative would avoid the project's significant and unavoidable construction noise and land use impacts related to 24-hour well drilling activities. However, this alternative would not achieve the project objectives and would not result in the project's beneficial impacts of improving water supply reliability; creating a sustainable, drought-resistant local water supply for southern San Luis Obispo County; providing a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion; and potentially providing a new source of water for agricultural irrigation.

7.2 Alternative 2: No Agricultural Irrigation Pipelines

7.2.1 Description

Similar to the proposed project, Alternative 2 consists of an ATF complex (including an advanced purified water storage tank, an equalization tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, and one new production well. However, under this alternative, agricultural irrigation pipelines would not be constructed as part of Phase II of the project, and the water from the ATF complex would not be used to irrigate agricultural lands south of Oceano. Instead, either all advanced purified water produced from the ATF complex under Phases I and II (approximately 3.9 mgd) would be used for groundwater injection, or the ATF complex would be constructed with less capacity than under the proposed project, thereby processing less secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs.[1] The purpose of this alternative is to avoid project impacts associated with the construction of agricultural irrigation pipelines across Arroyo Grande Creek. As further detailed in Section 7.2.2, *Impact Analysis*, the environmental

[1] The determination of whether to construct an ATF complex with less capacity rather than use all advanced purified water for groundwater injection would be dependent on if additional groundwater recharge is necessary for protection and augmentation of groundwater supplies.

impacts associated with construction of the agricultural irrigation pipelines would be avoided by this alternative. Potential impacts associated with the remaining project components (i.e., injection wells, monitoring wells, water distribution pipelines, ATF complex, and new production well) would occur as described for the proposed project.

7.2.2 Impact Analysis

a. Air Quality

Under Alternative 2, fewer construction activities would be required, thereby yielding reduced air pollutant emissions as compared to the proposed project. As estimated in Section 4.1, *Air Quality*, approximately 31.12 pounds per day and 1.03 tons per quarter of ROG + NO_X, 0.04 ton per quarter of diesel particulate matter, and 0.01 ton per quarter of dust emissions associated with construction of the agricultural irrigation pipelines under Phase II would be avoided. In addition, no operational vehicle trips would be needed to maintain the agricultural irrigation pipelines; therefore, a small portion of operational air pollutant emissions would also be avoided.

Potential air quality impacts associated with the remaining project components would occur as modeled for the proposed project. Similar to the proposed project, under Alternative 2, construction emissions during Phase I would exceed the SLOAPCD daily and quarterly Tier 1 thresholds for ROG + NO_X. Therefore, air emission impacts from Phase I of construction would remain potentially significant. Similar to the proposed project, implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would be required to reduce impacts to a less-than-significant level for Phase I. However, as shown in Table 7-2, construction emissions during Phase II would no longer exceed the SLOAPCD quarterly Tier 1 threshold for ROG + NO_X. As a result, no mitigation would be required for Phase II construction activities under this alternative.

Table 7-2 Alternative 2: Phase II Estimated Maximum Quarterly Construction Air Pollutant Emissions

Project Component	ROG + NO_X (tons/quarter)	DPM (tons/quarter)	Dust (tons/quarter)
Injection Wells and Additional Water Distribution Pipelines[1]	1.90	0.03	0.02
Total Maximum Quarterly Emissions	**1.90**	**0.03**	**0.02**
SLOAPCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**No**	**No**	**No**
SLOAPCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; SLOAPCD = San Luis Obispo County Air Pollution Control District; N/A = not applicable; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

[1] See Table 4.1-9 in Section 4.1, *Air* Quality.

b. Biological Resources

Under the proposed project, the agricultural irrigation pipelines would likely traverse Arroyo Grande Creek. As a result, of all of the components of the proposed project, agricultural irrigation pipelines between the ATF complex and agricultural lands south of Oceano would have the highest likelihood of impacting special status species habitats, riparian habitat, drainages, wetlands, and ESHA. Under Alternative 2, potential impacts to biological resources in the vicinity of Arroyo Grande Creek would be reduced because the project would not traverse Arroyo Grande Creek. However, because the other project components would be the same as those under the proposed project, impacts to biological resources would remain potentially significant at the injection well, monitoring well, ATF complex, water distribution pipeline, and production well locations. Similar to the proposed project, Mitigation Measures BIO-1(a) through BIO-1(k), BIO-2, BIO-3(a) through BIO-3(c), and BIO-5 would be required to reduce potential impacts to a less-than-significant level.

c. Cultural Resources

Ground-disturbing activities associated with the agricultural irrigation pipelines have the potential to damage or destroy known or unknown archaeological resources that may be present on or below the ground surface. Because the precise locations of the agricultural irrigation pipelines are not currently known, it is possible that construction of these pipelines could affect known or unknown cultural resources. Alternative 2 would avoid impacts to known or unknown archaeological resources along the agricultural irrigation pipeline alignments. However, Alternative 2 would still have a potentially significant impact related to known and unknown archaeological resources at the locations of the remaining project components. As a result, similar to the proposed project, Mitigation Measures CR-2(a) through CR-2(d) would be required to reduce potential impacts to archaeological resources to a less-than-significant level.

d. Energy

As with the proposed project, energy would be consumed during construction and operation of this alternative. Under Alternative 2, fewer construction activities would be required, thereby resulting in reduced energy usage as compared to the proposed project. In addition, no operational vehicle trips would be needed to maintain the agricultural irrigation pipelines; therefore, a small portion of operational energy usage would also be avoided. As discussed in Section 4.1, *Air Quality*, treating a portion of secondary effluent via MF/UF and pumping recycled water to agricultural lands south of Oceano would require overall lower energy usage than purifying all secondary effluent via the full treatment process and pumping the advanced purified water to the injection wells (Water Systems Consulting 2017). Therefore, this alternative would result in greater energy usage than if a portion of water from the ATF complex is used for agricultural irrigation.

However, this EIR conservatively evaluates the energy impacts of the worst-case scenario in which all advanced purified water is used for groundwater injection because the agricultural irrigation pipelines are only a potential project component. Therefore, this alternative would not result in greater energy consumption than that already analyzed in this EIR. Similar to the proposed project, energy consumption would not be wasteful, inefficient, or unnecessary, and no impact would occur.

As with the proposed project, this alternative would be potentially inconsistent with the energy-related measures and policies of the City's Climate Action Plan and the City of Grover Beach's General Plan. Therefore, implementation of Mitigation Measures GHG-2 and E-2 would be required

for this alternative to potentially achieve consistency. Impacts would be less than significant with mitigation incorporated.

e. Environmental Justice

Although this alternative does not include construction of the agricultural irrigation pipelines, the remaining project components would be constructed in Oceano and Grover Beach, which are identified as environmental justice communities. Similar to the proposed project, implementation of Mitigation Measures HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1 would be required to reduce potential impacts to environmental justice communities to a less-than-significant level.

f. Greenhouse Gas Emissions

Under Alternative 2, fewer construction activities would be required, thereby yielding reduced GHG emissions as compared to the proposed project. Alternative 2 construction would generate approximately 556 metric fewer tons of carbon dioxide equivalents than the proposed project. In addition, no operational vehicle trips would be needed to maintain the agricultural irrigation pipelines; therefore, a small portion of operational GHG emissions would also be avoided. This alternative would achieve the same general purposes of enhancing the reliability and resiliency of local water supplies as the proposed project and would therefore be consistent with the goals of the 2017 Scoping Plan related to water recycling and reuse (CARB 2017). Furthermore, as with the proposed project, the majority of GHG emissions under this alternative would be generated by electricity used to power the treatment processes and pump station. Therefore, as the requirements of the Renewable Portfolio Standard continue to phase in through 2045, annual GHG emissions generated by operation of this alternative will decrease correspondingly. Therefore, GHG emissions under this alternative would be less than significant.

Similar to the proposed project, it is unknown at this time whether the design of the ATF complex would achieve consistency with applicable measures in the City's Climate Action Plan. Therefore, as with the proposed project, implementation of Mitigation Measure GHG-2 would be required to potentially achieve consistency with the City's Climate Action Plan and reduce impacts to a less-than-significant level.

g. Hazards and Hazardous Materials

Similar to the proposed project, construction and operation of Alternative 2 would increase the routine transport and use of hazardous materials in the project area but would not create a significant hazard to the public or the environment. Implementation of Mitigation Measures HAZ-1(a) and HAZ-1(b) would reduce this impact to a less-than-significant level. Similar to the proposed project, this alternative has the potential to interfere with an adopted emergency response or evacuation plan due to construction of water distribution pipelines in public roadway rights-of-way; however, Mitigation Measure T-1 would reduce this impact to a less-than-significant level through preparation and implementation of a Transportation Management Plan. As with the proposed project, no project components under Alternative 2 would be located in an area of high or very high fire hazard severity. Impacts to hazards and hazardous materials related to Alternative 2 would be less than significant with mitigation incorporated.

h. Hydrology/Water Quality

Construction activities for Alternative 2 would be generally similar to those of the proposed project, with the exception that construction activities under Alternative 2 would not cross Arroyo Grande

Creek and would have a smaller overall footprint. Similar to the proposed project, construction activities associated with Alternative 2 (e.g., concrete work and drilling for injection wells, monitoring wells, and production well; trenching activities for pipelines; and building construction activities for the ATF complex) could introduce additional pollutants and sediment into stormwater runoff. As discussed for the proposed project in Section 4.8, *Hydrology and Water Quality*, construction of Alternative 2 would be required to comply with all applicable federal, State, and local water quality standards, including the State Water Resource Control Board's NPDES *Construction General Permit* for construction projects resulting in more than one acre of ground disturbance. Accordingly, Alternative 2 would also be required to implement a SWPPP, which would include BMPs to minimize erosion, siltation, and polluted runoff. With regulatory compliance, potential construction impacts related to hydrology and water quality under Alternative 2 would be less than significant.

Under Alternative 2, potential operational impacts related to the injection of advanced purified water into the SMGB, the discharge of reverse osmosis concentrate into the ocean, and associated changes in the groundwater pumping regime would be similar to the proposed project, except all water produced from the ATF complex under Phases I and II would potentially be used for groundwater injection. This alternative would achieve the same purposes of recharging the SMGB and developing a seawater intrusion barrier as the proposed project and therefore would also have a beneficial impact on the SMGB. As with the proposed project, Mitigation Measure HWQ-1 would be required to identify and resolve potential radioactivity exceedances in the reverse osmosis concentrate discharge from the ATF complex. Similar to the proposed project, potential operational impacts related to hydrology and water quality would be less than significant with mitigation incorporated.

i. Land Use

Alternative 2 would not result in alterations to the locations of the injection/monitoring/production wells, water distribution pipelines, or ATF complex. Therefore, similar to the proposed project, implementation of Mitigation Measures CR-2(a) through CR-2(d), BIO-3(a) through BIO-3(c), HAZ-1(a), HAZ-1(b), N-1, N-2, and N-4 would be required. Nevertheless, similar to the proposed project, land use impacts would be significant and unavoidable due to the significant temporary increase in ambient noise levels in excess of local noise standards that would result from noise associated with 24-hour well drilling activities during construction.

j. Noise

Under Alternative 2, no construction activities would be required along the agricultural irrigation pipeline alignments, thereby avoiding construction noise impacts to sensitive receivers in the project area that would potentially be located along these alignments. Nevertheless, due to the proximity of the remaining project components to sensitive receivers, implementation of Mitigation Measure N-1 in all cases may not be feasible and therefore may not reduce construction noise impacts below the specified thresholds. Therefore, similar to the proposed project, construction noise impacts would be significant and unavoidable.

No operational vehicle trips would be needed to maintain the agricultural irrigation pipelines; therefore, a small portion of VMT and their associated roadway noise emissions would also be avoided. Nevertheless, noise-generating activities related to construction and operation of the remaining components would still exceed local standards, and impacts would remain potentially significant under this alternative. Similar to the proposed project, implementation of Mitigation

Measures N-2 and N-4 would be required to reduce potential noise impacts to a less-than-significant level.

k. Transportation

Construction activities for Alternative 2 would be similar to those of the proposed project, with the exception of the agricultural irrigation pipelines. Water distribution pipelines would still be constructed in public roadway rights-of-way and would have the potential to impact the circulation network during construction activities. Therefore, similar to the proposed project, implementation of Mitigation Measure T-1 would be required to reduce construction-related transportation impacts to a less-than-significant level.

Under Alternative 2, no operational vehicle trips would be needed to maintain the agricultural irrigation pipelines; therefore, a small portion of VMT would be avoided, although the overall number of trips would remain the same because it is assumed that semiannual pipeline inspection trips for the agricultural irrigation pipelines would be made in conjunction with semiannual inspection trips for the water distribution pipelines. As with the proposed project, the addition of project-related trips and VMT to existing traffic volumes and VMT would be negligible and would not significantly impact level of service at any of the intersections in the study area. Therefore, similar to the proposed project, operational transportation impacts for Alternative 2 would be less than significant.

7.3 Alternative 3: ATF Complex at SSLOCSD WWTP

7.3.1 Description

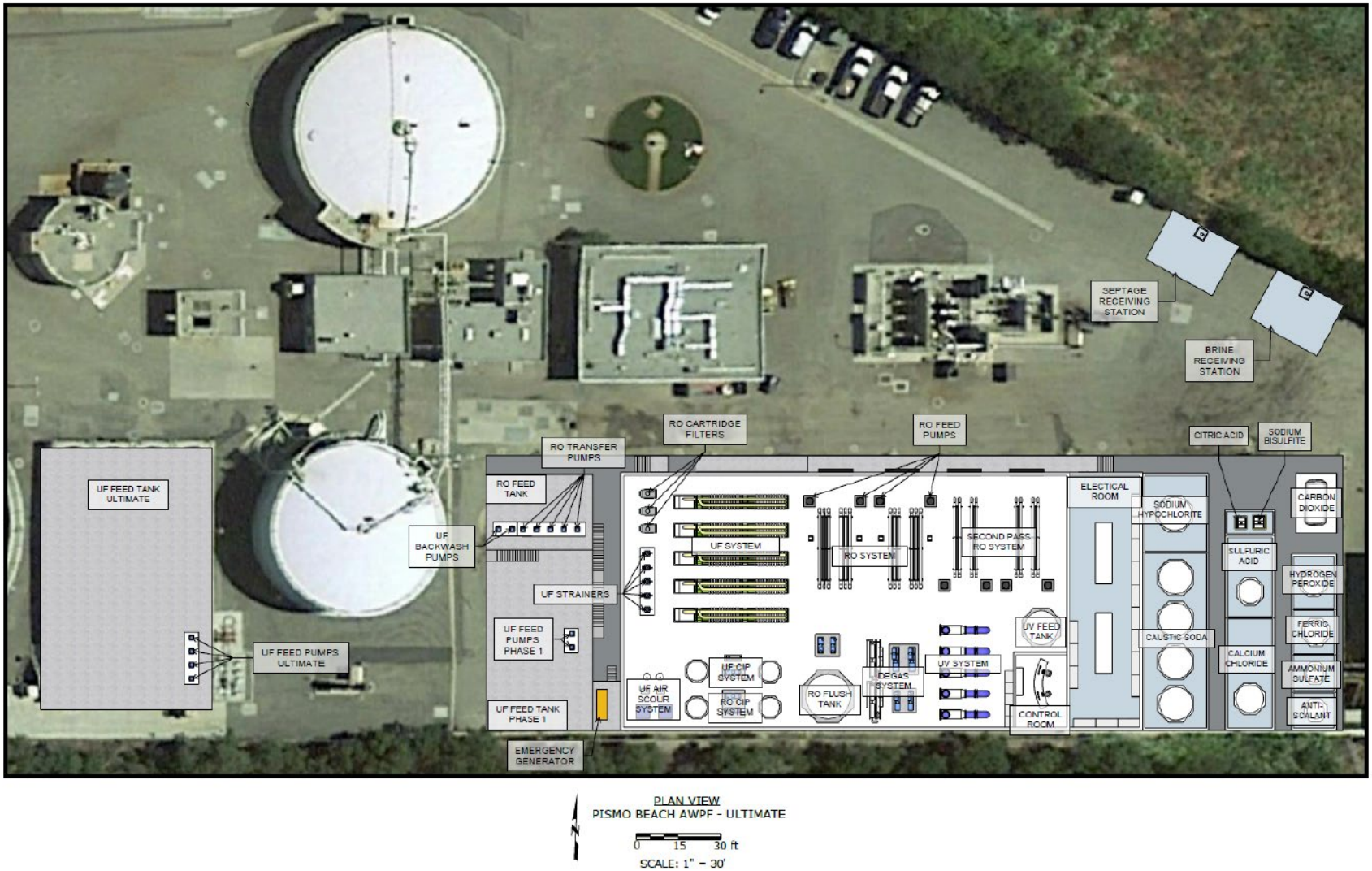
Similar to the proposed project, Alternative 3 consists of an ATF complex (including an advanced purified water storage tank, an equalization tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, and one new production well. Alternative 3 would include injection of advanced purified water into the SMGB to develop a seawater intrusion barrier. In addition, a portion of the water from the ATF may be used for agricultural irrigation. However, under Alternative 3, the ATF complex would be constructed at the existing SSLOCSD WWTP facility at 1600 Aloha Place in Oceano. The existing SSLOCSD WWTP is located on a 10.86-parcel owned by SSLOCSD (Assessor's Parcel Number 061-093-047). The location of project components under this alternative are shown in Figure 7-1.

The ATF complex would be located adjacent to the SSLOCSD WWTP within the boundaries of the existing property and would be interwoven with the existing SSLOCSD WWTP facilities. The preliminary location of the ATF complex in relation to the existing SSLOCSD WWTP is shown in Figure 7-2. As shown therein, the ATF complex would be located in the eastern portion of the SSLOCSD WWTP site and would occupy approximately 0.43 acre. The SSLOCSD WWTP property, including the location of the ATF complex, is located in a FEMA-designated 100-year Special Flood Hazard Area, Zone AE. Similar to SSLOCSD's Wastewater Treatment Redundancy Project, the ATF complex would require adequate flood protection (e.g., barriers, sealed basements, raised foundations, etc.) to prevent structural damage or system interruption during a flood event because they would be located in a 100-year flood hazard area. The treatment process utilized at the ATF complex under Alternative 3 would be the same as that used for the proposed project, which is described in detail in Section 2, *Project Description*. Construction activities for Alternative 3 would

Figure 7-1 Alternative 3 - Water Distribution Pipeline Alignments and ATF Complex Location

Imagery provided by Microsoft Bing and its licensors © 2020.

Figure 7-2 Alternative 3 - Site Layout of ATF Complex at SSLOCSD WWTP Property



Source: Carollo 2019

be generally similar to those of the proposed project, with the exception that construction activities under Alternative 3 would include necessary improvements to provide adequate flood protection.

The proposed project would not involve changes to parking and access at the SSLOCSD WWTP for the on-site ATF complex. The SSLOCSD WWTP's existing vehicular access via the entrance gate at the intersection of Honolulu Road and Aloha Place would be retained, as would the existing asphalt parking lot on the northeastern edge of the site.

Under this alternative, water distribution pipelines would be installed generally in the same public roadways as the proposed project. However, water distribution pipelines would not be drilled under the Union Pacific Railroad track because the ATF complex would not be located east of the railroad track.

7.3.2 Impact Analysis

a. Air Quality

This alternative would achieve the same purpose as the proposed project and would therefore be consistent with the 2001 CAP. Construction and operational activities would be similar for this alternative and the proposed project because the scale of development would be similar. As with the proposed project, emissions of criteria pollutants under this alternative would exceed SLOAPCD daily and quarterly thresholds for ROG + NO_X during Phases I and II of construction, and implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would be required to reduce impacts to a less-than-significant level. However, similar to the proposed project, operational emissions of criteria pollutants would not exceed SLOAPCD thresholds, and impacts would be less than significant. This alternative would also be located in in the western portion of San Luis Obispo County, which is designated attainment for all federal NAAQS. Therefore, similar to the proposed project, this alternative would be exempt from a conformity determination. Construction and operation would not expose sensitive receptors to substantial concentrations of TACs because, similar to the proposed project, diesel particulate matter emissions would not exceed SLOAPCD thresholds during construction, and operation of the emergency generator would be required to comply with SLOAPCD Rule 219. Therefore, impacts related to TACs under this alternative would be less than significant. The ATF complex and water distribution pipelines would not be located in an area known to contain naturally-occurring asbestos under this alternative (SLOAPCD 2019). Therefore, no air quality impacts related to asbestos-containing materials would occur. Similar to the proposed project, this alternative would not include components that would generate nuisance odors affecting a substantial number of people during construction and operation, and impacts related to odors would be less than significant.

b. Biological Resources

Similar to the proposed project, Alternative 3 would result in potentially significant direct and indirect impacts to special status species, riparian areas, and wetlands. The ATF complex would be sited at the SSLOCSD WWTP property alongside IW-5A, IW-5B, and MW-5A/5B/5C. As discussed in Section 4.2, *Biological Resources*, this area is adjacent to Arroyo Grande Creek and therefore contains potentially suitable dispersal habitat for CRLF and southwestern pond turtle. Individuals of black-flowered figwort may also be present. As a result, all of the biological resources mitigation measures required for the proposed project would be required for Alternative 3 to address impacts to CRLF, southwestern pond turtle, and black-flowered figwort from the ATF complex as well as

biological resources impacts resulting from the remaining project components. Similar to the proposed project, impacts would be less than significant with mitigation incorporated.

c. Cultural Resources

As discussed in Section 4.3, *Cultural Resources*, no archaeological resources were identified on the SSLOCSD WWTP property. Nevertheless, similar to the proposed project, ground-disturbing activities associated with this alternative would have the potential to damage or destroy unknown archaeological resources that may be present on or below the ground surface, and implementation of Mitigation Measures CR-2(a) through CR-2(c) would be required to reduce impacts to a less-than-significant level. Furthermore, because the locations of the new production well and agricultural irrigation pipelines are not known under this alternative, ground-disturbing activities associated with these components would also have the potential to damage or destroy known or unknown archaeological resources. Therefore, as with the proposed project, implementation of Mitigation Measure CR-2(d) would be required to reduce impacts to a less-than-significant level.

d. Energy

As with the proposed project, energy would be consumed during construction and operation of this alternative. Construction and operational activities for this alternative would be similar to those of the proposed project because the scale of development would be similar. This alternative would achieve the same purpose as the proposed project and would be subject to the same regulations governing energy efficiency and renewable energy. Therefore, as with the proposed project, energy consumption during construction and operation of this alternative would not be wasteful, inefficient, or unnecessary, and no impact would occur.

Because the ATF complex would be located at the SSLOCSD WWTP property in unincorporated San Luis Obispo County under this alternative, the provisions of the Grover Beach General Plan related to energy efficiency and renewable energy would not apply to the ATF. Therefore, Mitigation Measure E-2 would not apply to this alternative. However, similar to the proposed project, this alternative would be potentially inconsistent with several measures of the City's Climate Action Plan related to energy efficiency and renewable energy, and implementation of Mitigation Measure GHG-2 would be required. In addition, because the ATF complex would be located in unincorporated San Luis Obispo County, the following goals and policies of the County of San Luis Obispo EnergyWise Plan (2016) would apply:

Goal C1. Address future energy needs through increased conservation and efficiency in all sectors.

Measure 7. Energy-Efficient New Development. Encourage and incentivize new development projects to exceed minimum CALGreen requirements.

Supporting Actions

- Require the use of energy-efficient equipment in all new development, including but not limited to Energy Star appliances, high-energy efficiency equipment, heat recovery equipment, and building energy management systems.
- Encourage new projects to provide ample daylight within the structure through the use of lighting shelves, exterior fins, skylights, atriums, courtyards, or other features to enhance natural light penetration.

- Minimize the use of dark materials on roofs by requiring roofs to achieve a minimum solar reflectivity index of 10 for high-slope roofs and 64 for low-slope roofs (CALGreen 5.1 Planning and Design).
- Minimize heat gain from surface parking lots by utilizing the following strategies for a minimum of 50 percent of the site's hardscape:
  - Provide shade from the existing tree canopy or within five years of landscape installation;
  - Provide shade from structures covered by solar panels;
  - Provide shade structures or hardscape materials with a minimum SRI of 29;
  - Use an open-grid pavement system (at least 50 percent pervious).

Measure 8. Community Forestry. Pursue a comprehensive program to plant and maintain trees on County-maintained roads, medians, and public parking lots in the unincorporated communities. Expand the program to include tree planting on private property where owners wish to be part of the program. Encourage property owners to plant and maintain trees near structures to reduce building energy demand.

Supporting Actions

- Continue tree replacement and mitigation requirements when removing trees with new development.
- Continue to require the protection of native trees on land proposed for development.

Goal C4. Reduce emissions from potable water use by 20 percent from per capita baseline levels by 2020 by prioritizing water conservation before development of new water resources.

Measure 26. Water Conservation: New Construction. Reduce potable water use by 20 percent in all newly constructed buildings by using the prescriptive or performance method provided in CALGreen to demonstrate compliance.

Measure 30. Water-Efficient Landscape. Reduce outdoor water use in new landscapes through compliance with the County's Water-Efficient Landscape Ordinance.

Supporting Actions

- Turf will not exceed 20 percent of the total site area on parcels 1 acre or less and 20 percent of landscaped areas on parcels greater than 1 acre.
- Irrigation controllers will have rain sensors.

As with the proposed project, it is unknown at this time whether the design of the ATF complex would achieve consistency with the goals, measures, and supporting actions of the EnergyWise Plan. Therefore, the following additional mitigation measure would be required for this alternative to potentially achieve consistency with the energy-related goals, measures, and supporting actions of EnergyWise Plan and reduce impacts to a less-than-significant level:

Energy Efficiency and Renewable Energy Measures

Alternative 3 shall implement the following energy efficiency and renewable energy measures:

- The ATF building shall include EnergyStar appliances in the staff support facilities and a building energy management system.
- The ATF shall be designed to accomplish the following to the maximum extent practicable:

  - Provide ample daylight within the structure through the use of lighting shelves, exterior fins, skylights, atriums, courtyards, or other features to enhance natural light penetration;
  - Achieve a minimum SRI of 10 for high-slope roofs and 64 for low-slope roofs.

- The parking lot at the ATF complex shall be designed to minimize heat gain by utilizing one or more of the following strategies for a minimum of 50 percent of the site's hardscape:
  - Provide shade from the existing tree canopy or within five years of landscape installation;
  - Provide shade from structures covered by solar panels;
  - Provide shade structures or hardscape materials with a minimum SRI of 29;
  - Use an open-grid pavement system (at least 50 percent pervious).
- The project shall comply with the County of San Luis Obispo requirements for protection of native trees and tree replacement/mitigation.
- The staff support facilities in the ATF complex shall be designed to reduce potable water use by 20 percent by using the prescriptive or performance method provided in CALGreen to demonstrate compliance.
- If landscaping with irrigation is installed at the ATF complex, the following shall apply:
  - Turf shall not exceed 20 percent of landscaped areas; and
  - Irrigation controllers shall have rain sensors.

e. Environmental Justice

As with the proposed project, this alternative would be constructed in Oceano and Grover Beach, which are identified as environmental justice communities. Implementation of Mitigation Measures HAZ-1(a), HAZ-1(b), N-2, N-4, and T-1 from the proposed project would be required to reduce potential impacts to a less-than-significant level.

f. Greenhouse Gas Emissions

Construction and operational activities for Alternative 3 would be similar to those of the proposed project because the same project components would be constructed. Therefore, GHG emissions generated by construction and operation of this alternative would be similar to those generated by the proposed project. This alternative would achieve the same purposes of enhancing the reliability and resiliency of local water supplies as the proposed project and would therefore be consistent with the goals of the 2017 Scoping Plan related to water recycling and reuse (CARB 2017). Furthermore, as with the proposed project, the majority of GHG emissions under this alternative would be generated by electricity used to power the treatment process and pump station. Therefore, as the requirements of the Renewable Portfolio Standard continue to phase in through 2045, annual GHG emissions generated by operation of this alternative will decrease correspondingly. Therefore, GHG emissions under this alternative would be less than significant.

Similar to the proposed project, it is unknown at this time whether the design of the ATF complex would achieve consistency with applicable measures in the City's Climate Action Plan.[2] Therefore, as

[2] Although the ATF complex would be located in unincorporated San Luis Obispo County instead of Grover Beach under this alternative, the County of San Luis Obispo would not own or operate any of the project components and therefore would not have purview over GHG emissions associated with the proposed project because these emissions would not be included in the County's GHG inventory. Therefore, GHG reduction plans and policies adopted by the County of San Luis Obispo are not applicable to the proposed project.

with the proposed project, implementation of Mitigation Measure GHG-2 would be required to potentially achieve project consistency with the City's Climate Action Plan, and impacts would be reduced to a less-than-significant level.

g. Hazards and Hazardous Materials

Similar to the proposed project, construction and operation of Alternative 3 would increase the routine transport and use of hazardous materials in the project area but would not create a significant hazard to the public or the environment. The project has the potential to result in release of hazardous materials through reasonably foreseeable upset or accident conditions during both construction and operation of the project. Implementation of Mitigation Measures HAZ-1(a) and HAZ-1(b) would address this impact, although Mitigation Measure HAZ-1(b) would likely need to be modified slightly to reference amending SSLOCSD WWTP's existing Hazardous Materials Business Plan to account for the ATF complex rather than drafting a new Hazardous Materials Business Plan. Therefore, this impact would be less than significant with mitigation incorporated.

Similar to the proposed project, Alternative 3 would not create a significant hazard to the public or environment due to proximity to a hazardous materials site. Construction of Alternative 3 has the potential to interfere with an adopted emergency response or evacuation plan; however, as with the proposed project, Mitigation Measure T-1 would reduce this impact to a less-than-significant level through preparation and implementation of a Transportation Management Plan.

Alternative 3 would locate the ATF complex at the SSLOCSD WWTP property in Oceano. As stated in Section 4.7, *Hazards and Hazardous Materials*, Oceano is located in a State Responsibility Area. However, similar to the proposed project, no project components under Alternative 3 would be located in an area of high or very high fire hazard severity. Therefore, as with the proposed project, no impact related to wildland fires would occur.

h. Hydrology/Water Quality

Construction activities for Alternative 3 would be generally similar to those of the proposed project, with the exception that construction activities under Alternative 3 would include necessary improvements to provide adequate flood protection. Similar to the proposed project, construction activities associated with Alternative 3 (e.g., concrete work and drilling for injection wells, monitoring wells, and production well; trenching activities for pipelines; and building construction activities for the ATF complex) could introduce additional pollutants and sediment into stormwater runoff. As discussed for the proposed project in Section 4.8, *Hydrology and Water Quality*, construction of Alternative 3 would comply with all applicable federal, State, and local water quality standards, including the State Water Resource Control Board's NPDES *Construction General Permit* for resulting in more than one acre of ground disturbance. Accordingly, Alternative 3 would also be required to implement a SWPPP, which would include BMPs to minimize erosion, siltation, and polluted runoff at the ATF complex location on the existing SSLOCSD WWTP property. With regulatory compliance, potential construction impacts related to hydrology and water quality under Alternative 3 would be less than significant.

Under Alternative 3, potential operational impacts related to the injection of advanced purified water into the SMGB, the discharge of reverse osmosis concentrate into the ocean, and associated changes in the groundwater pumping regime would be the same as those under the proposed project. This alternative would achieve the same purposes of recharging the SMGB and developing a seawater intrusion barrier as the proposed project and therefore would also have a beneficial impact on the SMGB. As with the proposed project, Mitigation Measure HWQ-1 would be required

to identify and resolve potential radioactivity exceedances in the reverse osmosis concentrate discharge from the ATF complex.

Siting the ATF complex at the SSLOCSD WWTP property may increase impervious surface area and alter drainage patterns. Similar to the proposed project, the proposed ATF complex under Alternative 3 would be subject to the *Central Coast Post-Construction Stormwater Requirements* (Central Coast RWQCB Order R3-2013-0032) and would be required to implement BMPs to reduce pollutant discharges and minimize stormwater runoff volumes. BMPs may include low impact development measures such as bioswales and permeable pavement. Specific BMPs and their respective components are subject to the approval of the RWQCB, which would review and approve of all features of the required BMPs. Compliance with the *Central Coast Post-Construction Stormwater Requirements* and applicable local regulations would mandate BMPs and design features to control stormwater runoff quality and quantity.

The SSLOCSD WWTP property, including the location of the ATF complex under Alternative 3, is located in a FEMA-designated 100-year Special Flood Hazard Area, Zone AE. Similar to SSLOCSD's Wastewater Treatment Redundancy Project, the ATF complex would require adequate flood protection (e.g., barriers, sealed basements, raised foundations, etc.) to prevent structural damage or system interruption during a flood event because they would be located in a 100-year flood hazard area. In addition, the ATF complex would be designed to accommodate flood flows while maintaining existing drainage patterns as much as practicable. Furthermore, as discussed above, the proposed ATF complex would be subject to the *Central Coast Post-Construction Stormwater Requirements* and would implement BMPs to minimize stormwater runoff volumes, which would also serve to reduce flood flows. However, because Alternative 3 would construct the ATF complex within the 100-year floodplain and would therefore have the potential to impact flood flows, this impact would be greater than that identified for the proposed project and would be potentially significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Flood Flows Analysis and Best Management Practices

In addition to regular stormwater BMPs, the SWPPP shall include a quantitative analysis of site-specific flood flows and identification and implementation of BMPs to avoid or minimize adverse impacts associated with flood flows.

i. Land Use

Alternative 3, as with the proposed project, would have no impact regarding physical division of an established community because the proposed water distribution and agricultural irrigation pipelines would be located underground primarily along existing rights-of-way, the proposed injection and monitoring wells would be located on small portions of existing parcels, and the proposed ATF complex would be located on the existing SSLOCSD WWTP property.

Under Alternative 3, the ATF complex would be located on the SSLOCSD WWTP property, which is designated Public Facilities. This site is located in the Coastal Zone, Archaeologically Sensitive Area, Airport Review Area, Wetland, and Flood Hazard Area combining designations. Public utility facilities are allowed in all zones in unincorporated San Luis Obispo County with varying types of permits and requirements (e.g., land use permit, site plan review, conditional use permit), depending on the zone. As such, this alternative would be consistent with the underlying land use designations and zoning of the SSLOCSD WWTP property.

Due to the requirements of the Flood Hazard Area combining designation, a drainage plan would be required for construction of the ATF complex. Because the proposed ATF complex under Alternative 3 would be only one story in height, it would not interfere with airport operations. As discussed in Section 4.3, *Cultural Resources*, and Appendix E, no cultural resources were identified within the SSLOCSD WWTP property. Therefore, the ATF complex would be consistent with the requirements of the Archaeologically Sensitive Area combining designation. As with the proposed project, Alternative 3 would be required to implement Mitigation Measures BIO-3(a) through BIO-3(c), which include preparation of a jurisdictional delineation to identify jurisdictional areas and implementation of avoidance and minimization measures to avoid, minimize, and compensate for direct and indirect impacts to state- or federally-protected wetlands from development of the ATF complex and other project components. Similar to the proposed project, implementation of Mitigation Measures CR-2(a) through CR-2(d), BIO-3(a) through BIO-3(c), HAZ-1(a), HAZ-1(b), N-1, N-2, and N-4 would be required to reduce impacts. Nevertheless, similar to the proposed project, land use impacts would be significant and unavoidable due to the significant temporary increase in ambient noise levels in excess of local noise standards that would result from noise associated with 24-hour well drilling activities during construction.

j. Noise

Construction activities for Alternative 3 would be similar to those of the proposed project, and noise-sensitive receivers would be located in generally similar proximities to project components. Under Alternative 3, water distribution pipelines would not be closer to sensitive receivers than under the proposed project (approximately 25 feet). In addition, the nearest sensitive receiver to the ATF complex location at the SSLOCSD WWTP property are residences approximately 140 feet to the northwest, which is relatively equivalent to the distance between the proposed project's ATF complex site and the nearest residential sensitive receivers (approximately 145 feet). Similar to the proposed project, construction of this alternative would generate substantial temporary increases in ambient noise levels in the vicinity of project components in excess of local standards during project construction. Nevertheless, due to the proximity of project components to sensitive receivers, implementation of Mitigation Measure N-1 in all cases may not be feasible and therefore may not reduce construction noise impacts below the specified thresholds. Therefore, similar to the proposed project, construction noise impacts would be significant and unavoidable.

Use of a vibratory roller during project construction would generate perceptible vibration at nearby receivers; therefore, implementation of Mitigation Measure N-4, which prohibits the use of vibratory rollers, would be required. Similar to the proposed project, impacts would be less than significant with mitigation incorporated.

Although this alternative involves a different ATF complex location than the proposed project, operational activities would be the same. As with the proposed project, operation of Alternative 3 would potentially generate substantial permanent increases in ambient noise levels in the vicinity of the ATF complex in excess of local standards. Implementation of Mitigation Measure N-2, which requires preparation of an acoustical analysis upon completion of the initial ATF design, site layout, and equipment selection, would be required to reduce impacts to a less-than-significant level. As with the proposed project, given the minimal number of project-related trips, roadway noise impacts related to roadway vehicle trips would likely be less than significant.

k. Transportation

Construction activities for Alternative 3 would be similar to those of the proposed project, with the exception that drilling under the Union Pacific Railroad track would not be required. Construction vehicles and equipment for this alternative would traverse the same roads and streets as the proposed project, and construction would still require temporary lane closures. As with the proposed project, implementation of Mitigation Measure T-1 would be required to reduce impacts to a less-than-significant level.

Under Alternative 3, the total number of daily operations and maintenance trips and VMT would be similar to or less than those anticipated for the proposed project because the ATF complex would be co-located with the IW-5A, IW-5B, and MW-5A/5B/5C locations. The total number of daily operations and maintenance trips would remain the same because it is assumed that all injection and monitoring wells would be inspected in the same trip each week. However, this alternative would achieve minor efficiencies by reducing vehicle trip lengths because the route to visit the other injection and monitoring wells would be incrementally shorter. Therefore, operational transportation impacts for Alternative 3 would be less than significant, similar to the proposed project.

7.4 Alternative 4: Modified Locations of Injection and Monitoring Wells

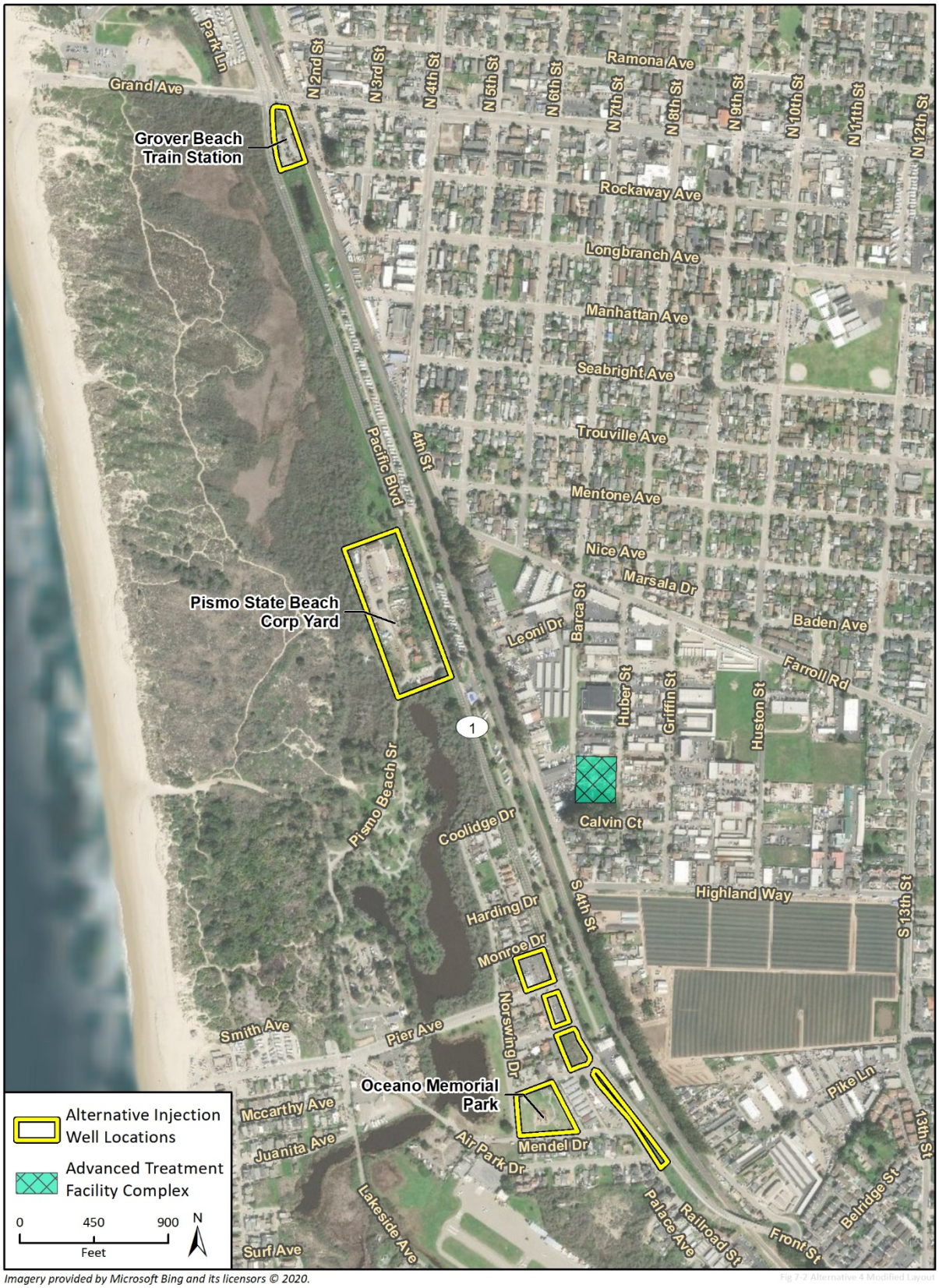
7.4.1 Description

Similar to the proposed project, Alternative 4 consists of an ATF complex (including an advanced purified water storage tank, an equalization tank, and a pump station), water distribution pipelines, injection wells, monitoring wells, one new production well, and agricultural irrigation pipelines. Alternative 4 would include injection of advanced purified water into the SMGB to develop a seawater intrusion barrier. In addition, a portion of the water from the ATF complex may be used for agricultural irrigation. However, under Alternative 4, the locations of some injection and monitoring wells and water distribution pipeline alignments would be modified to avoid recreational impacts to the Coastal Dunes RV Park and Campground. Construction activities for Alternative 4 would be generally similar to those of the proposed project.

Under this alternative, IW-1, IW-2A, IW-2B, IW-3, and MW-2A/2B/2C would be sited outside the Coastal Dunes RV Park and Campground, and the locations of all remaining monitoring wells would shift to be located in accordance with regulatory requirements for travel times. The general locations where IW-1, IW-2A, IW-2B, and IW-3 may be re-sited are shown in Figure 7-3.[3, 4] MW-2A/2B/2C and other monitoring wells would be re-sited within the properties shown in Figure 7-3 or in public roadway rights-of-way and parking lots similar in nature to the locations of monitoring wells under the proposed project. To accommodate the modified locations of IW-1, IW-2A, IW-2B, and IW-3, minor modifications to the alignments of water distribution pipelines would be needed to connect these injection wells to the ATF complex. However, similar to the proposed project, water distribution pipeline alignments would generally be located in the Coastal Dunes RV Park and

[3] Injection wells sited in the Pismo State Beach Corp Yard would be located in currently developed/disturbed areas.
[4] The alternative location options for the injection wells are conceptual at this time. The identification of these properties as potential alternative well locations does not commit the City to using these properties in any manner.

Figure 7-3 Alternative 4 - Modified Locations of Injection Wells and Monitoring Wells



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Campground, SR 1, public roadway rights-of-way, Oceano County Airport, the SSLOCSD WWTP property, and the properties that contain the injection wells.

7.4.2 Impact Analysis

a. Air Quality

Because Alternative 4 would involve all of the same project components as the proposed project with minimal changes to the lengths of water distribution pipelines, air quality impacts would be similar to those of the proposed project. Construction emissions during Phases I and II would exceed the SLOAPCD daily threshold for ROG + NO_X and the quarterly Tier 1 thresholds for ROG + NO_X, and air emission impacts associated with Alternative 4 would be potentially significant. As with the proposed project, implementation of Mitigation Measures AQ-2(a) through AQ-2(b) would be required to reduce impacts to a less-than-significant level.

b. Biological Resources

Similar to the proposed project, Alternative 4 would result in potentially significant direct and indirect impacts to special status species, riparian areas, and wetlands. Alternative 4 may result in the siting of injection and monitoring wells in close proximity to riparian areas, including arroyo willow habitat, around Meadow Creek. Similar to the IW-5A, IW-5B, and MW-5A/5B/5C locations under the proposed project, the modified locations for the injection and monitoring wells in the Pismo State Beach Corp Yard may be near potentially suitable dispersal habitat for CRLF and southwestern pond turtle, and individuals of black-flowered figwort may be present. In addition, California legless lizard, nesting birds, and special-status birds may also be present at all of the modified locations. Alternative 4 could impact these species during construction activities and may also directly impact the arroyo willow riparian vegetation community associated with Meadow Creek through habitat removal depending on the proximity of the wells to the outer limits of the Pismo State Beach Corp Yard. All of the biological resources mitigation measures required for the proposed project would be required for Alternative 4, and additional mitigation may be needed to address potential impacts to the riparian areas around Meadow Creek. Similar to the proposed project, impacts would be less than significant with mitigation incorporated.

c. Cultural Resources

Several known archaeological resources are located in the vicinity of the Pismo State Beach Corp Yard and other areas where the injection wells and monitoring wells may be re-sited. Similar to the proposed project, Mitigation Measure CR-2(d) would require preparation of a Phase I Cultural Resources Study to identify potential archaeological resources. Any identified resources would be avoided and preserved in place, if feasible. Similar to the proposed project, implementation of this mitigation measure would reduce potential impacts to a less-than-significant level.

Ground-disturbing activities associated with the other project components would also still have the potential to damage or destroy known or unknown archaeological resources that may be present on or below the ground surface. Similar to the proposed project, Mitigation Measures CR-2(a) through CR-2(c) would be required to reduce potential impacts to unknown archaeological resources to a less-than-significant level.

d. Energy

Because Alternative 4 would involve all of the same project components as the proposed project with minimal changes to the lengths of water distribution pipelines, energy impacts would be similar to those of the proposed project. This alternative would achieve the same purpose as the proposed project and would be subject to the same regulations governing energy efficiency and renewable energy. Therefore, as with the proposed project, energy consumption during construction and operation of this alternative would not be wasteful, inefficient, or unnecessary, and no impact would occur.

Similar to the proposed project, implementation of Mitigation Measures GHG-2 and E-2 would be required for this alternative to potentially achieve consistency with the energy-related measures and policies of the City's Climate Action Plan and the City of Grover Beach's General Plan. Impacts would be less than significant with mitigation incorporated.

e. Environmental Justice

As with the proposed project, this alternative would be constructed in Oceano and Grover Beach, which are identified as environmental justice communities. Implementation of Mitigation Measures HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1 would be required to reduce potential impacts to a less-than-significant level, similar to the proposed project.

f. Greenhouse Gas Emissions

Because Alternative 4 would involve all of the same project components as the proposed project with minimal changes to the lengths of water distribution pipelines, GHG emissions impacts would be similar to those of the proposed project. This alternative would achieve the same purpose as the proposed project and would therefore be consistent with the goals of the 2017 Scoping Plan related to water recycling and reuse. Furthermore, as with the proposed project, the majority of GHG emissions under this alternative would be generated by electricity used to power the treatment process and pump station. Therefore, as the requirements of the Renewable Portfolio Standard continue to phase in through 2045, annual GHG emissions generated by operation of this alternative will decrease correspondingly. As a result, GHG emissions under this alternative would be less than significant.

Similar to the proposed project, it is unknown at this time whether the design of the ATF complex would achieve consistency with applicable measures in the City's Climate Action Plan. Therefore, as with the proposed project, implementation of Mitigation Measure GHG-2 would be required to potentially achieve project consistency with the City's Climate Action Plan and reduce impacts to a less-than-significant level.

g. Hazards and Hazardous Materials

Similar to the proposed project, construction and operation of Alternative 4 would increase the routine transport and use of hazardous materials in the project area but would not create a significant hazard to the public or the environment. The project has the potential to result in release of hazardous materials through reasonably foreseeable upset or accident conditions during both construction and operation of the project. Implementation of Mitigation Measures HAZ-1(a) and HAZ-1(b) would reduce this impact to a less-than-significant level.

h. Hydrology/Water Quality

Construction activities for Alternative 4 would be generally similar to those of the proposed project, with the exception that the location of the injection wells and monitoring wells would be different. Similar to the proposed project, construction activities associated with Alternative 4 (e.g., concrete work and drilling for injection wells, monitoring wells, and production well; trenching activities for pipelines; and building construction activities for the ATF complex) could introduce additional pollutants and sediment into stormwater runoff. Similar to the proposed project, construction of Alternative 4 would comply with all applicable federal, State, and local water quality standards, including the State Water Resource Control Board's NPDES *Construction General Permit* for construction projects resulting in more than one acre of ground disturbance. Accordingly, Alternative 4 would also be required to implement a SWPPP, which would include BMPs to minimize erosion, siltation, and polluted runoff. With regulatory compliance, potential construction impacts related to hydrology and water quality under Alternative 4 would be less than significant, similar to the proposed project.

Under Alternative 4, potential operational impacts related to the injection of advanced purified water into the SMGB, the discharge of reverse concentrate into the ocean, and associated changes in the groundwater pumping regime would be similar to the proposed project. The proposed ATF complex would be subject to the *Central Coast Post-Construction Stormwater Requirements* (Central Coast RWQCB Order R3-2013-0032) and would implement BMPs to reduce pollutant discharges and minimize stormwater runoff volumes. This alternative would achieve the same purpose as the proposed project, and would have a beneficial impact on the SMGB. As with the proposed project, Mitigation Measure HWQ-1 would still be required to identify and resolve potential radioactivity exceedances in the reverse osmosis concentrate discharge from the ATF complex. Given the design features described in detail in Section 4.8, *Hydrology and Water Quality*, injection and monitoring wells would not risk the release of pollutants in the event of inundation. Similar to the proposed project, potential operational impacts related to hydrology and water quality would be less than significant with mitigation incorporated.

i. Land Use

Public and quasi-public land uses are allowed with a use permit in all zones in Grover Beach with the exception of Coastal Open Space, Coastal Golf Course, Coastal Pedestrian Beach, and Coastal Vehicular Beach zones, and pipelines and public utility facilities are allowed in all zones in unincorporated San Luis Obispo County with varying types of permits and requirements (e.g., land use permit, site plan review, conditional use permit), depending on the zone. As such, this alternative would be consistent with the underlying land use designations and zoning of the potential siting options. Similar to the proposed project, implementation of Mitigation Measures CR-2(a) through CR-2(d), BIO-3(a) through BIO-3(c), HAZ-1(a), HAZ-1(b), N-1, N-2, and N-4 would be required to reduce impacts related to consistency with land use plans, policies, and regulations. Nevertheless, similar to the proposed project, land use impacts would be significant and unavoidable due to the significant temporary increase in ambient noise levels in excess of local noise standards that would result from noise associated with 24-hour well drilling activities during construction.

j. Noise

Under Alternative 4, the modified locations for the injection and monitoring wells could be immediately adjacent to noise-sensitive receivers. Similar to the proposed project, construction of

this alternative would generate substantial temporary increases in ambient noise levels in the vicinity of project components in excess of local standards during project construction. It is likely that project components under this alternative would be sited in close proximity to sensitive receivers; therefore, similar to the proposed project, implementation of Mitigation Measure N-1 in all cases may not be feasible and therefore may not reduce construction noise impacts below the specified thresholds. Therefore, construction noise impacts would be significant and unavoidable. All other noise and vibration impacts related to the water distribution pipelines, ATF complex, new production well, and agricultural irrigation pipelines would be the same as those under the proposed project and would be less than significant with incorporation of Mitigation Measures N-2 and N-4.

k. Transportation

Construction activities for Alternative 4 would be similar to those of the proposed project, with the exception that construction activities for injection wells and monitoring wells would occur on the west side of SR 1. Nonetheless, construction vehicles and equipment for this alternative would traverse the same roads and streets as the proposed project, and construction would still require temporary lane closures. As with the proposed project, implementation of Mitigation Measure T-1 would be required to reduce impacts to a less-than-significant level.

This alternative would result in modified locations for the injection and monitoring wells. However, the total number of daily operations and maintenance trips and VMT would be similar to those anticipated for the proposed project because the modified locations would be in the same general area as those under the proposed project and would not result in substantial changes to trip lengths. Therefore, operational transportation impacts for Alternative 4 would be less than significant, similar to the proposed project.

7.5 Alternative 5: Increased State Water Project Allocation

7.5.1 Description

Under the Increased State Water Project Allocation Alternative, the NCMA agencies would seek increased State Water Project (SWP) allocations rather than implementing the proposed project. To achieve an equivalent amount of water supply as the proposed project, an additional 3,566 AFY of SWP allocations would need to be secured. The full volume of secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs would continue to be discharged to the ocean via the outfall pipeline. No seawater intrusion barrier would be developed, and no additional recharge of the SMGB would occur. In addition, no recycled water would be provided for agricultural irrigation.

The SWP supplies water to 29 public water agencies across California through a network of canals, pipelines, tunnels, and reservoirs. Long-term contracts between SWP and water agencies detail agreements on the maximum amount of water a contractor may request annually (i.e., its Table A allocation), although actual water delivery may vary per year, depending on available water supply, hydrologic conditions, reservoir storage, and total amount of water requested by SWP water contractors. SWP water is used to supplement local or imported water supplies, and occasionally for agricultural purposes (California Department of Water Resources 2020a).

When an agency has a surplus of water due to favorable weather or reduced consumption, DWR encourages and facilitates the transfer of water using SWP conveyance facilities to other agencies to

help them meet water supply needs. State law requires DWR to make unused SWP water allocations available for transfers upon payment of fair compensation, provided no legal user of water will be injured; there will be no unreasonable effect on fish, wildlife, or other instream beneficial uses; and there will be no unreasonable effect on the overall economy or the environment of the county from which the water is being transferred (California Water Code Section 1810). Water transfers can involve transfers and exchanges among SWP long-term water contractors, between SWP water contractors and non-SWP entities, or between two or more non-SWP entities. Hundreds of water transfers occur annually in California, ensuring all available SWP water is consistently used (California Department of Water Resources 2020b).

The City and OCSD currently have Table A SWP allocations in their water supply portfolios (City of Pismo Beach 2016; OCSD 2020). Both agencies receive SWP water through subcontract agreements with the SLOFC&WCD, which has an SWP Table A allocation of 25,000 AFY. The City of Pismo Beach has a Table A allocation of 1,100 AFY and participates in the SLOFC&WCD's drought buffer program through which the City has access to an additional 1,240 additional AFY of Table A Allocation. However, Pismo Beach's delivery capacity for SWP is limited to 1,240 AFY. OCSD has a Table A Allocation of 750 AFY and similarly participates in the SLOFC&WCD's drought buffer program through which OCSD has access to 750 additional AFY of Table A Allocation (County of San Luis Obispo 2020). However, OCSD is also limited to a delivery capacity of 750 AFY. Although the Cities of Grover Beach and Arroyo Grande do not currently receive SWP water, both cities have identified the SWP as a potential future water supply source (City of Grover Beach 2011; City of Arroyo Grande 2017).

The SLOFC&WCD currently has an excess SWP Table A allocation of 14,463 AFY (County of San Luis Obispo 2020). This excess allocation is likely sufficient to supply the 3,566 AFY needed to achieve an equivalent water supply as the proposed project during most years. However, the California Department of Water Resources establishes an annual allocation percentage (0 to 100 percent) that determines how much water is available. This percentage is then applied to each agency's Table A Allocation and Drought Buffer supplies.

To secure new or additional entitlements, NCMA agencies would need to negotiate with SLOFC&WCD, the County of Santa Barbara, and the Central Coast Water Authority (CCWA). Furthermore, additional capacity would need to be available at the Polonio Pass Water Treatment Plant and in the CCWA Coastal Branch and Lopez pipelines for treatment and delivery of the additional SWP water. The Polonio Pass Water Treatment Plant currently has a treatment capacity of 50 million gallons per day, which is sufficient to accommodate the maximum annual entitlement of the Counties of San Luis Obispo and Santa Barbara; therefore, treatment capacity would be available for the excess allocation (CCWA 2019). According to a hydraulic study completed by SLOFC&WCD, there is also sufficient excess capacity in the CCWA Coastal Branch and Lopez pipelines that could be available for delivering an additional 3,566 AFY of SWP water (Water Systems Consulting 2012). Therefore, this analysis assumes that no additional water treatment or pipeline capacity would be required to deliver additional SWP allocations. It is also assumed that no additional local storage capacity would be needed for SWP water. However, although the SLOFC&WCD has an excess SWP allocation, it does not own excess treatment capacity at the Polonio Pass Water Treatment Plant. Therefore, SLOFC&WCD would need to negotiate for additional treatment allocation at the Polonio Pass Water Treatment Plant in order to provide treatment of additional SWP entitlements for NCMA agencies.

The purpose of this alternative is to address, in part, comments received during the scoping period requesting analysis of alternative water supply options. While Alternative 5 would not fulfill the

City's stated objectives for the project of: augmenting groundwater supply; creating a sustainable, drought-resistant, local water supply; providing a new source of recharge to the SMGB; or reducing wastewater discharges to the ocean, this alternative would facilitate continued water resources collaboration in the NCMA and potentially provide an equivalent quantity of additional water supply as the proposed project.

7.5.2 Impact Analysis

a. Air Quality

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable air quality impacts because no additional infrastructure would be constructed. Although this alternative would require increasing the quantity of water treated at the Polonio Pass Water Treatment Plant, electricity would be used to power the treatment process, and emissions of criteria pollutants from electricity generation are not attributed to individual projects because fossil fuel power plants are existing stationary sources permitted by air districts and/or the USEPA and are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users (California Air Pollution Control Officers Association 2017). No mitigation would be required.

b. Biological Resources

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable biological resources impacts, because no additional infrastructure would be constructed. Furthermore, this alternative would not increase the existing Table A allocation of SLOFC&WCD, and as discussed under Section 7.5.1, *Description*, California Water Code Section 1810 only allows the California Department of Water Resources to make unused SWP water allocations available for transfers if there will be no unreasonable effect on fish, wildlife, or other instream beneficial uses. Therefore, no mitigation would be required.

c. Cultural Resources

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable cultural resources impacts because no additional infrastructure would be constructed. No mitigation would be required.

d. Energy

This alternative would avoid energy impacts associated with construction activities under the proposed project. In addition, Mitigation Measures GHG-2 and E-2 would no longer apply because no infrastructure would be constructed. However, under Alternative 5, the NCMA agencies would seek approximately 3,566 AFY of increased SWP allocations. SWP deliveries are considered to be particularly energy-intensive water sources because water supplies are pumped from northern California to southern California, which requires thousands of feet in elevation lift. Energy would also be required to treat SWP water at the Polonio Pass Water Treatment Plant and to pump water from the Polonio Pass Water Treatment Plant to the NCMA agencies. Therefore, Alternative 5 would potentially increase the energy intensity of water supplies available to NCMA agencies. As a result, this alternative would potentially result in the inefficient, wasteful, and unnecessary consumption of energy because a less energy-intensive water supply option (i.e., the proposed project) is available.

e. Environmental Justice

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable environmental justice impacts because no infrastructure would be constructed in the environmental justice communities of Grover Beach and Oceano. No mitigation would be required.

f. Greenhouse Gas Emissions

This alternative would avoid GHG impacts associated with construction activities under the proposed project. In addition, Mitigation Measures GHG-2 and E-2 would no longer apply because no infrastructure would be constructed. However, as described under *Energy* above, SWP deliveries are considered to be particularly energy-intensive water sources, and Alternative 5 would potentially increase the energy intensity of water supplies available to the NCMA agencies, which would therefore increase GHG emissions associated with these agencies' water supply. Furthermore, implementation of Alternative 5 would not meet the following goals from the 2017 Scoping Plan:

- Develop and support more reliable water supplies for people, agriculture, and the environment, provided by a more resilient, diversified, sustainably managed water resources system with a focus on actions that provide direct GHG reductions.
- Make conservation a California way of life by using and reusing water more efficiently through greater water conservation, drought tolerant landscaping, stormwater capture, water recycling, and reuse to help meet future water demands and adapt to climate change.
- Reduce the carbon footprint of water systems and water uses for both surface and groundwater supplies through integrated strategies that reduce GHG emissions while meeting the needs of a growing population, improving public safety, fostering environmental stewardship, aiding in adaptation to climate change, and supporting a stable economy.

Therefore, Alternative 5 would potentially be inconsistent with the 2017 Scoping Plan and would have a potentially significant impact related to GHG emissions.

g. Hazards and Hazardous Materials

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable impacts related to hazards and hazardous materials because no infrastructure would be constructed. No mitigation would be required.

h. Hydrology/Water Quality

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable construction-related hydrology and water quality impacts because no infrastructure would be constructed. No mitigation would be required. Alternative 5 would not introduce new significant adverse operational impacts related to hydrology and water quality; however, it would also not achieve the proposed project's beneficial impacts related to groundwater recharge and water supply augmentation. In addition, SWP water allocations are contingent upon precipitation in northern California and are not guaranteed water supplies. In dry years, faced with limited SWP deliveries, NCMA agencies would have to use groundwater as the only remaining water supply option, and increased groundwater pumping without additional sources of recharge would continue to exacerbate seawater intrusion.

i. Land Use

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable land use impacts because no infrastructure would be constructed. This alternative would also avoid the proposed project's significant and unavoidable land use impact related to construction noise associated with 24-hour well drilling activities in close proximity to residential land uses. No mitigation would be required.

j. Noise

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant and unavoidable construction noise impact associated with 24-hour well drilling activities in close proximity to residential land uses because no infrastructure would be constructed. No mitigation would be required.

k. Transportation

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable transportation impacts because no infrastructure would be constructed. No mitigation would be required.

7.6 Alternative 6: Increased Storage of Lopez Reservoir

7.6.1 Description

Under the Increased Storage of Lopez Reservoir Alternative, the spillway elevation of the Lopez Dam would be raised to increase the yield of the Lopez Reservoir rather than implementing the proposed project. Raising the spillway of Lopez Dam by twelve feet would increase additional long-term yield by approximately 1,005 acre-feet (Stetson Engineers 2013). The increased capacity would correlate to a greater entitlement of the water supply that can be distributed to NCMA agencies. However, the estimated water supply yield from this alternative would not be sufficient to provide an equivalent amount of water supply (i.e., 3,566 AFY) as the proposed project; therefore, this alternative would need to be implemented in conjunction with additional water supply alternatives, such as Alternative 5 or water conservation measures, in order to provide an equivalent amount of water supply as the proposed project. The feasibility of this alternative would be limited by precipitation and drought conditions, which constrain the amount of water captured by the Lopez Reservoir each year. The existing spillway has not been used since 1998 due to low precipitation and extended drought conditions; therefore, although this alternative could provide up to 1,005 acre-feet of water, the actual amount would vary based on year-to-year conditions.

Construction of this alternative would require raising the spillway gate and dam crest by 12 feet, installation of a pneumatically operated spillway gate on the existing concrete spillway crest, removal and replacement of the Lopez Drive spillway bridge, and demolition and reconstruction of Lopez Drive across the dam crest. This alternative would result in inundation of additional shoreline lands when reservoir levels are high during wet seasons, which could result in the inundation of existing shoreline recreational facilities (e.g., boat docks, campsites, trails), inundation of plants and wildlife habitat, and erosion of shoreline lands. To accommodate inundation of additional lands, the SLOCFC&WCD would need to acquire additional rights-of-way.

Additional capacity would need to be available at the Lopez Water Treatment Plant to treat the additional water. The Lopez Water Treatment Plant has a capacity of approximately 6.7 million gallons per day, or 7,505 AFY (County of San Luis Obispo n.d.). The Zone 3 agencies, which include the NCMA agencies and County Service Area 12, are currently under contract to receive approximately 4,530 AFY from the Lopez Reservoir; therefore, the Lopez Water Treatment Plant has an excess capacity of approximately 2,975 AFY, which would be sufficient to treat the additional yield of 1,005 AFY (SLOFC&WCD 2016).

Under this alternative, the full volume of secondary treated effluent from the Pismo Beach and SSLOCSD WWTPs would continue to be discharged to the ocean via the outfall pipeline. No seawater intrusion barrier would be developed, and no additional recharge of the SMGB would occur. In addition, no recycled water would be provided for agricultural irrigation.

The purpose of this alternative is to address, in part, comments received during the scoping period requesting analysis of alternative water supply options. While Alternative 6 would not fulfill the City's stated objectives for the project of: augmenting groundwater supply; creating a sustainable, drought-resistant, local water supply; providing a new source of recharge to the SMGB; or reducing wastewater discharges to the ocean, this alternative would facilitate continued water resources collaboration in the NCMA and would provide some additional water supply, although not as much as the proposed project.

7.6.2 Impact Analysis

a. Air Quality

Construction activities associated with raising the spillway and dam crest of Lopez Reservoir would generate criteria pollutant emissions through the operation of heavy-duty equipment and vehicles, export of demolition debris, and import of soil material. The size and intense nature of the construction activities required for this alternative are anticipated to generate greater criteria air pollutant emissions as compared to the proposed project. Therefore, it is likely that this alternative would require additional mitigation of air pollutant emissions and may result in a significant and unavoidable air quality impact related to construction activities. Operational air quality impacts would be less than those of the proposed project because operation and maintenance of the raised spillway and dam crest is not likely to require additional staff or maintenance activities beyond those already required for the Lopez Dam.

b. Biological Resources

Although this alternative would avoid the proposed project's significant but mitigable biological resources impacts in the project area, construction activities associated with raising the spillway of Lopez Dam would result in new potential impacts to biological resources in the vicinity of the Lopez Reservoir. Recurring inundation of shoreline lands surrounding Lopez Reservoir would result in inundation of a variety of habitats and plant communities, including brush, grass, trees, and wetlands. Mitigation would be required to reduce potential impacts to special status species, sensitive vegetation communities, wetlands, and protected trees. At this time, the full extent of impacts to biological resources on shoreline lands is not known. Furthermore, the Arroyo Grande Creek watershed downstream of Lopez Dam provides habitat for a variety of fish and wildlife species, including southern anadromous steelhead and CRLF. Both steelhead and CRLF are threatened species under the federal Endangered Species Act. Operation of the reservoir and associated releases into Arroyo Grande Creek, in addition to other operations and maintenance

activities performed by the SLOFC&WCD associated with the project, could affect the quality and availability of habitat for steelhead and CRLF and may result in direct or indirect incidental take of these protected species. In 2004, the final draft of the *Arroyo Grande Creek Habitat Conservation Plan (HCP) and Environmental Assessment/Initial Study for the Protection of Steelhead and California Red-Legged Frogs* was published. The purpose of the HCP is to authorize SLOFC&WCD for incidental take from current and anticipated operations of the Lopez Dam and Reservoir, while providing protection for steelhead and CRLF.

The HCP for Arroyo Grande Creek has not yet been approved and does not contemplate raising the spillway and dam crest. Therefore, this alternative would likely require either Section 7 or Section 10 consultation under the federal Endangered Species Act, and a modified or additional HCP may be necessary. It would likely be possible to mitigate impacts to wetlands to a less-than-significant level through on-site and off-site replacement and compensation for lost wetlands. However, impacts related to the loss of habitats or special status species that cannot be replaced or compensated for would be significant and unavoidable.

c. Cultural Resources

Although this alternative would avoid the proposed project's significant but mitigable cultural resources impacts in the project area, this alternative would potentially result in new impacts to cultural resources as a result of eroding shoreline lands and thereby exposing potentially unknown archaeological and cultural resources that could be present. In addition, Lopez Dam was constructed in 1954; therefore, the affected buildings and structures would need to be evaluated for historical significance by a historian or architectural historian. If the affected buildings or structures are determined to be historic and Alternative 6 results in the material impairment of these buildings or structures, impacts to historical resources would be potentially significant. Mitigation may be available to reduce cultural resources impacts to a less-than-significant level; however, it is possible that impacts to cultural resources would be significant and unavoidable, which would be greater than the impacts of the proposed project.

d. Energy

Construction activities associated with raising the spillway and dam crest of Lopez Reservoir would result in energy consumption by the operation of heavy-duty equipment and vehicles, export of demolition debris, and import of soil material. The size and intense nature of the construction activities required for this alternative are anticipated to require greater energy consumption than construction activities required for the proposed project. However, operational energy demand associated with pumping and treating additional water from Lopez Reservoir would likely be less than that of the proposed project because traditional water treatment and conveyance processes are less energy-intensive than the advanced purification and groundwater injection processes. Operational energy consumption associated with water treatment and reservoir operations would be less than that of the proposed project because operation and maintenance of the raised spillway and dam crest is not likely to require additional staff or maintenance activities beyond those already required for the Lopez Dam. Similar to the proposed project, energy consumption during construction and operation of this alternative would not be wasteful, inefficient, or unnecessary, and no impact would occur.

Because this alternative would be under the jurisdiction of SLOFC&WCD rather than the Cities of Pismo Beach and Grover Beach, Mitigation Measures GHG-2 and E-2 would no longer apply. However, additional mitigation may be required for this alternative to be consistent with the County

of San Luis Obispo (2016) EnergyWise Plan. It is anticipated that impacts would be less than significant with mitigation incorporated, similar to the proposed project.

e. Environmental Justice

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant but mitigable environmental justice impacts because no infrastructure would be constructed in the environmental justice communities of Grover Beach and Oceano. Lopez Reservoir is surrounded by open space and is not located near established communities. Therefore, this alternative would not result in any disproportionately high impacts on minority, low income, or disadvantaged communities. No mitigation would be required.

f. Greenhouse Gas Emissions

Construction activities associated with raising the spillway and dam crest of Lopez Reservoir would generate GHG emissions through the operation of heavy-duty equipment and vehicles, export of demolition debris, and import of soil material. The size and intense nature of the construction activities required for this alternative are anticipated to generate greater GHG emissions as compared to the proposed project. Operational GHG emissions would be less than that of the proposed project because operation and maintenance of the raised spillway and dam crest is not likely to require additional staff or maintenance activities beyond those already required for the Lopez Dam. Furthermore, operational GHG emissions associated with pumping and treating additional water from Lopez Reservoir would likely be less than those of the proposed project because traditional water treatment and conveyance processes are less energy-intensive than the advanced purification and groundwater injection processes. However, implementation of Alternative 6 would not meet the following goals from the 2017 Scoping Plan:

- Develop and support more reliable water supplies for people, agriculture, and the environment, provided by a more resilient, diversified, sustainably managed water resources system with a focus on actions that provide direct GHG reductions.
- Make conservation a California way of life by using and reusing water more efficiently through greater water conservation, drought tolerant landscaping, stormwater capture, water recycling, and reuse to help meet future water demands and adapt to climate change.
- Reduce the carbon footprint of water systems and water uses for both surface and groundwater supplies through integrated strategies that reduce GHG emissions while meeting the needs of a growing population, improving public safety, fostering environmental stewardship, aiding in adaptation to climate change, and supporting a stable economy.

Therefore, although this alternative would result in fewer GHG emissions, it would not be consistent with the 2017 Scoping Plan. Therefore, GHG emissions impacts under this alternative would potentially be greater than those of the proposed project.

Because this alternative would be under the jurisdiction of SLOFC&WCD rather than the Cities of Pismo Beach and Grover Beach, Mitigation Measure GHG-2 would no longer apply. However, additional mitigation may be required for this alternative to be consistent with the County of San Luis Obispo (2016) EnergyWise Plan. It is anticipated that impacts would be less than significant with mitigation incorporated, similar to the proposed project.

g. Hazards and Hazardous Materials

Similar to the proposed project, construction of this alternative would increase the routine transport and use of hazardous materials throughout the duration of the construction period. Implementation of Mitigation Measures HAZ-1(a) and HAZ-1(b) would address the potential release of hazardous materials into the environment and would reduce the potential for adverse impacts to occur in the event of spills and/or accidental releases of hazardous materials. Operational activities associated with this alternative would not substantially change from existing conditions and would not introduce new impacts related to hazards and hazardous activities. Therefore, similar to those of the proposed project, impacts to hazards and hazardous materials would be less than significant with mitigation incorporated.

h. Hydrology/Water Quality

Construction activities needed to raise the spillway could potentially risk release of pollutants into Lopez Reservoir and surrounding surface waters. Construction of Alternative 6 would be required to comply with all applicable federal, State, and local water quality standards to prevent polluted runoff from leaving construction areas. Nevertheless, mitigation measures may be required to enforce more stringent controls given the proximity to Lopez Reservoir. Nevertheless, it is anticipated this impact could be mitigated to a less-than-significant level.

The purpose of Alternative 6 would be to raise the spillway and dam crest such that more water can accumulate in the Lopez Reservoir during and after precipitation events. Consequently, this alternative would alter the existing drainage pattern of the area by inundating more land on the banks of the reservoir. However, the project would be designed in accordance with regulatory requirements such that it would not create or exacerbate on- or off-site flooding risks in the area. As a result, impacts related to flooding would be less than significant. In addition, Alternative 6 would avoid the project's potential impacts related to radioactive toxicity standards for effluent discharge from the existing ocean outfall; therefore, Mitigation Measure HWQ-1 would not be required.

Although Alternative 6 would not introduce new significant adverse operational impacts related to hydrology and water quality, it would also not achieve the proposed project's beneficial impacts related to groundwater recharge and water supply augmentation. In addition, Lopez Reservoir has not filled to capacity since 1998. The water supply augmentation expected under this alternative relies on the assumption that southern California will receive reliable precipitation. Given concerns over climate change and prolonged drought periods, this alternative is not likely to be a reliable source of water supply.

i. Land Use

Similar to the No Project Alternative, this alternative would avoid the proposed project's significant and unavoidable land use impact related to construction noise associated with 24-hour well drilling activities in close proximity to residential land uses because of the remote nature of the Lopez Reservoir, the lack of nighttime construction activities, and the distance to the nearest sensitive receivers. However, Alternative 6 would result in inundation of shoreline lands, which would alter the potential land use of these areas and permanently preclude most types of development. In addition, given the potential impacts discussed in the preceding subsections, it is possible that this alternative would conflict with land use plans, policies, and regulations adopted by the County of San Luis Obispo for the purpose of avoiding or mitigating an environmental effect. Mitigation may be required to reduce these impacts; however, as discussed under *Biological Resources* and *Cultural*

Resources, this alternative may result in significant and unavoidable impacts, which may conflict with land use plans, policies, and regulations adopted by the County of San Luis Obispo to avoid and mitigate biological and cultural resource impacts. Therefore, this alternative would potentially result in significant and unavoidable impacts to land use, similar to the proposed project.

j. Noise

Construction activities associated with raising the spillway and dam crest of Lopez Reservoir would generate noise through the operation of heavy-duty equipment and vehicles, export of demolition debris, and import of soil material. However, given the remote nature of the Lopez Reservoir, the lack of nighttime construction activities, and the distance to the nearest sensitive receivers, it is anticipated noise and vibration impacts would be less than significant, which would be less than the impacts identified for the proposed project. Therefore, this alternative would avoid the project's significant and unavoidable construction noise impact associated with 24-hour well drilling activities in close proximity to residential land uses.

k. Transportation

Construction activities associated with raising the spillway of Lopez Dam would generate construction traffic through the operation of heavy-duty equipment and worker vehicle trips. Furthermore, construction of this alternative would require removal and replacement of the Lopez Drive spillway bridge and demolition and reconstruction of Lopez Drive across the dam crest, which would temporarily preclude traffic from using this roadway and accessing open space areas to the east and north of Lopez Lake, including the Lopez Lake Campground. Due to the remote nature of Lopez Lake, easily-accessible alternative routes are not available; therefore, construction activities would temporarily preclude access to this area, and no feasible mitigation would be available to reduce impacts. Therefore, construction-related transportation impacts would be significant and unavoidable.

Operational transportation impacts would be less than those of the proposed project because operation and maintenance of the raised spillway and dam crest is not likely to require additional staff or maintenance activities beyond those already required for the Lopez Dam.

7.7 Alternatives Considered But Rejected

Other alternatives considered include various scenarios for use of the recycled water, including:

- Providing recycled water at Disinfected Secondary-23 standards for restricted reuse to offset potable water use;
- Providing recycled water at Disinfected Tertiary standards for unrestricted landscape irrigation to offset potable water use;
- Pursuing desalination to augment water supply;
- Implementing aggressive water conservation measures to reduce water demand.

Based on the *Recycled Water Facilities Planning Study – Final for the City of Pismo Beach* (2015) completed by Water Systems Consulting in the earlier stages of project planning, the provision of recycled water for restricted reuse and/or for unrestricted landscape irrigation was determined to be infeasible because there is not sufficient demand to use the entire available supply of recycled

water for either alternative. As a result, the unit cost per acre-foot of recycled water use for these alternatives was prohibitively high.

Desalination was considered to be an infeasible alternative due to the challenges of siting and regulatory permitting. In addition, a desalination alternative would likely have far greater environmental impacts than the proposed project due to the highly energy-intensive nature of the desalination process and the need to construct an intake line and a brine line in the Pacific Ocean. Implementation of aggressive water conservation measures was also considered to be infeasible given that it would be highly unlikely to provide the magnitude of water supply needed to achieve an equivalent water supply benefit as the proposed project and that it would include a high amount of uncertainty in its long-term reliability given that it would be largely dependent on consumer behavior.

7.8 Environmentally Superior Alternative

Table 7-3 indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed project for each of the issue areas studied. Based on the alternatives analysis provided above, the No Project Alternative (Alternative 1) is considered environmentally superior because it would eliminate all of the anticipated adverse environmental effects of the project. However, this alternative would not accomplish any of the objectives of the proposed project, some of which would have a beneficial impact on the environment, including: augmenting groundwater supply; creating a sustainable, drought-resistant, local water supply; providing a new source of recharge to the SMGB; reducing wastewater discharges to the ocean; and facilitated continued water resources collaboration in the NCMA.

Of the remaining five alternatives, the Increased State Water Project Allocation Alternative (Alternative 5) is the environmentally superior alternative, primarily because this alternative does not require the physical construction of any new infrastructure. This alternative would avoid the project's significant and unavoidable construction noise and land use impacts and lessen the significant but mitigable impacts of the proposed project on air quality, biological resources, cultural resources, environmental justice, hazards and hazardous materials, hydrology and water quality, vibration, operational noise, and transportation/traffic. However, this alternative would increase impacts related to energy and GHG emissions because the energy intensity of SWP water is potentially greater than that of recycled water and use of additional SWP water is not consistent with the goals of the 2017 Climate Change Scoping Plan (CARB 2017). In addition, Alternative 5 would not meet project objectives 1 through 4 because it would not augment groundwater supply; create a sustainable, drought-resistant, local water supply; recharge the SMGB; or reduce wastewater discharges to the ocean. Furthermore, this alternative would be dependent on the completion of successful negotiations with SLOFC&WCD, CCWA, and the County of Santa Barbara, which are not guaranteed to result in increased SWP allocations for NCMA agencies.

Of the alternatives that would meet project objectives (Alternatives 2, 3, and 4), Alternative 2 would be the environmentally superior alternative because it would not include construction of agricultural irrigation pipelines and would therefore avoid all impacts associated with that project component, including those related to air quality, biological resources, cultural resources, energy, GHG emissions, noise, and transportation/traffic. However, none of the project alternatives that would meet project objectives (Alternatives 2, 3, and 4) would avoid the project's significant and unavoidable construction noise and land use impacts associated with 24-hour well drilling activities for the injection, monitoring, and production wells in close proximity to residential land uses.

Hydrogeologic limitations and regulatory requirements constrain the feasible locations of the injection, monitoring, and production wells, and given the prevalence of residential and hotel/motel land uses in Oceano and Grover Beach, it may not feasible to site all injection and monitoring wells at a sufficient distance from residential and hotel/motel land uses to avoid these impacts while also accounting for optimal hydrogeologic conditions and compliance with regulatory requirements for groundwater injection and indirect potable reuse. As a result, construction noise and land use impacts under Alternatives 2, 3, and 4 would remain significant and unavoidable.

Table 7-3 Impact Comparison of Alternatives

Issue	Proposed Project Impact Classification	Alternative 1: No Project	Alternative 2: No Agricultural Irrigation Pipelines	Alternative 3: ATF Complex at SSLOCSD WWTP	Alternative 4: Modified Layout of Injection and Monitoring Wells	Alternative 5: Increased State Water Project Allocation	Alternative 6: Increased Storage of Lopez Reservoir
Air Quality	Less than Significant with Mitigation Incorporated	+	+	=	=	+	-
Biological Resources	Less than Significant with Mitigation Incorporated	+	+	=	-	+	=
Cultural Resources	Less than Significant with Mitigation Incorporated	+	+	=	-	+	-
Energy	Less than Significant with Mitigation Incorporated	+	+	-	=	-	=
Environmental Justice	Less than Significant with Mitigation Incorporated	+	=	=	=	+	+
Greenhouse Gas Emissions	Less than Significant with Mitigation Incorporated	+	+	=	=	-	-
Hazards and Hazardous Materials	Less than Significant with Mitigation Incorporated	+	=	=	=	+	=
Hydrology and Water Quality	Less than Significant with Mitigation Incorporated	-	=	-	=	+	+
Land Use and Planning	Significant and Unavoidable	+	=	=	=	+	=
Noise	Significant and Unavoidable	+	+	=	=	+	+
Transportation and Traffic	Less than Significant with Mitigation Incorporated	+	+	=	=	+	=

ATF = advanced treatment facility; SSLOCSD = South San Luis Obispo County Sanitation District; WWTP = wastewater treatment plant; AFY = acre-feet per year
+ Superior to the proposed project (reduced level of impact)
- Inferior to the proposed project (increased level of impact)
= Similar level of impact to the proposed project

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8 References

8.1 Bibliography

Executive Summary

GSI Water Solutions, Inc. 2020. *Northern Cities Management Area 2019 Annual Monitoring Report*.

Introduction

Cleath-Harris Geologists. 2017. *Groundwater Flow Analysis Regional Groundwater Sustainability Project Arroyo Grande/Tri-Cities Mesa Area*. February 2017.

Department of Toxic Substances Control. 2001. "Information Advisory – Clean Imported Fill Material." October 2001. https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMP_FS_Cleanfill-Schools.pdf (accessed March 2020).

____. 2008. *Interim Guidance for Sampling Agricultural Properties (Third Revision)*. August 7, 2008. https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Ag-Guidance-Rev-3-August-7-2008-2.pdf (accessed March 2020).

GEOSCIENCE Support Services (GEOSCIENCE). 2019. City of Pismo Beach and South San Luis Obispo County Sanitation District Central Coast Blue Phase 1B Hydrogeologic Evaluation. November 25, 2019.

GSI Water Solutions, Inc. 2020. *Northern Cities Management Area 2019 Annual Monitoring Report*.

Project Description

Carollo Engineers. 2018. Appendix B of Technical Memorandum 3 RO Concentrate Sampling Plan Results. November 2018.

GSI Water Solutions, Inc. 2020. *Northern Cities Management Area 2019 Annual Monitoring Report*.

Grover Beach, City of. 2014. "General Plan Land Use Element Map." Last modified: October 2014. http://www.grover.org/DocumentCenter/View/2751/LUE-Map-after-CoastalComm-approval-includes-Tract3038_Oct2014?bidId= (accessed March 2020).

____. 2018. "Official Zoning Map." Last modified: January 3, 2018. https://www.grover.org/DocumentCenter/View/2749/ZoningMap-11x17-after-CoastalCommissionApproval-includesTract3038_Oct2014?bidId= (accessed March 2020).

Northern Cities Management Area (NCMA) Technical Group. 2018. Northern Cities Management Area 2017 Annual Monitoring Report. April 22, 2018. https://www.pismobeach.org/DocumentCenter/View/42377/NCMA-2017-Annual-Monitoring-Report?bidId= (accessed March 2020).

Pismo Beach, City of. 2016. 2015 Urban Water Management Plan for the City of Pismo Beach. June 29, 2016. https://pismobeach.org/DocumentCenter/View/47720/Pismo-Beach-2015-UWMP-?bidId= (accessed March 2020).

San Luis Obispo, County of. 2020. "Land Use View." https://gis.slocounty.ca.gov/sites/luview.htm (accessed March 2020).

Environmental Setting

Buckingham, Bruce. 2020. Community Development Director, City of Grover Beach. Personal communication regarding cumulative projects in Grover Beach with Annaliese Miller, Associate Environmental Planner, Rincon Consultants, Inc. June 29, 2020.

Downing, Matthew. 2020. Planning Manager, City of Pismo Beach. Personal communication regarding cumulative projects in Pismo Beach with Annaliese Miller, Associate Environmental Planner, Rincon Consultants, Inc. January 8, 2020.

Perez, Andrew. 2019. Assistant Planner, City of Arroyo Grande. Personal communication regarding cumulative projects in Arroyo Grande with Annaliese Miller, Associate Environmental Planner, Rincon Consultants, Inc. December 23, 2019.

Air Quality

Brief for San Joaquin Valley Unified Air Pollution Control District as Amicus Curiae Supporting Respondents, Sierra Club, Revive the San Joaquin, and League of Women Voters Fresno v. County of Fresno and Friant Ranch, L.P. (2018), 6 Cal.5th 502, Case No. S219783.

California Air Pollution Control Officers Association. 2017. California Emissions Estimator Model User Guide: Version 2016.3.2. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. http://www.aqmd.gov/docs/default-source/caleemod/user's-guide---october-2017.pdf?sfvrsn=6 (accessed December 2019).

California Air Resources Board (CARB). 2019a. Health Effects of Diesel Exhaust. http://www.arb.ca.gov/research/diesel/diesel-health.htm (accessed December 2019).

____. 2019b. "National Ambient Air Quality Standards." https://ww2.arb.ca.gov/resources/national-ambient-air-quality-standards (accessed December 2019).

____. 2019c. "California Ambient Air Quality Standards." https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards (accessed December 2019).

____. 2019d. Top 4 Summary: Select Pollutant, Years, & Area. https://www.arb.ca.gov/adam/topfour/topfour1.php (accessed December 2019).

Carpinteria Valley Water District (CVWD). 2019. *Final Environmental Impact Report for the Carpinteria Advanced Purification Project*. SCH#2019011016. November 2019. http://cvwd.net/capp/project-information/#reports-and-studies (accessed December 2019).

San Luis Obispo Council of Governments. 2019. *Final Environmental Impact Report for the 2019 Regional Transportation Plan*. SCH# 2018011015. June 5, 2019.

San Luis Obispo County Air Pollution Control District (SLOAPCD). 2001. 2001 Clean Air Plan. https://www.slocleanair.org/rules-regulations/clean-air-plan.php (accessed December 2019).

____. 2012. CEQA Air Quality Handbook. 2012. Available at http://www.slocleanair.org/images/cms/upload/files/CEQA_Handbook_2012_v1.pdf

____. 2017. “Clarification Memorandum for the San Luis Obispo County Air Pollution Control District’s 2012 CEQA Air Quality Handbook.” Available at https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/FINAL_Clarification%20Memorandum%2020172.pdf

____. 2019a. “San Luis Obispo County Attainment Status.” Last modified: January 29, 2019. https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/AttainmentStatus29January2019.pdf (accessed December 2019).

____. 2019b. “SLOAPCD NOA Screening Buffers.” http://www.slocleanair.org/rules-regulations/asbestos/noa.php (accessed December 2019).

____. 2019c. *2019 Ambient Air Monitoring Network Plan*. June 2019. https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/2019-network-plan-finalEPA2.pdf (accessed December 2019).

United States Environmental Protection Agency (U.S. EPA). 2015. Overview of EPA’s Updates to the Air Quality Standards for Ground-Level Ozone. https://www.epa.gov/sites/production/files/2015-10/documents/overview_of_2015_rule.pdf (accessed December 2019).

____. 2017. “De Minimis Tables.” Last modified: August 4, 2017.

____. 2018. “Process of Reviewing the National Ambient Air Quality Standards.” Last modified: July 10, 2018. https://www.epa.gov/criteria-air-pollutants/process-reviewing-national-ambient-air-quality-standards (accessed December 2019).

____. 2019. “Protect Your Family from Exposures to Lead.” March 26, 2019. https://www.epa.gov/lead/protect-your-family-exposures-lead (accessed December 2019).

Water Systems Consulting. 2013. *Condition Assessment of Well #5 and Well #23 Technical Memorandum*. July 1, 2013.

____. 2017. *Recycled Water Facilities Planning Study*. June 8, 2017.

Western Regional Climate Center. 2012. Pismo Beach, California – Period of Record General Climate Summary – Temperature. October 31, 2012. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6943 (accessed December 2019).

____. 2016. Pismo Beach, California – Period of Record Monthly Climate Summary. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6943 (accessed December 2019).

Biological Resources

Baldwin , B.G. (Ed.), D.H. Goldman (Ed.), D. J. Keil (Ed.), R. Patterson (Ed.), T. J. Rosatti (Ed.), D. H. Wilken (Ed.). 2012. The Jepson Manual: Vascular Plants of California, Second Edition, Thoroughly Revised and Expanded. University of California Press. Berkeley, California.

California Department of Fish and Wildlife (CDFW). 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. February 2010. https://wildlife.ca.gov/Conservation/Planning/Connectivity/CEHC (accessed January 2020).

____. 2019a. “Invasive to Avoid: Iceplant.” https://wildlife.ca.gov/Conservation/Plants/Dont-Plant-Me/Iceplant (accessed January 2020).

____. 2019b. California Natural Diversity Database, Rarefind V. https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data (accessed December 2019).

____. 2019c. California Sensitive Natural Communities. https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List (accessed December 2019).

____. 2019d. *Conservation and Mitigation Banking Guidelines*. Adopted August 2014. Last updated July 2019. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=79095&inline=1 (accessed April 2020).

eBird. 2019. "eBird: An online database of bird distribution and abundance." eBird, Ithaca, New York. http://www.ebird.org (accessed January 2020).

Grover Beach, City of. 2014. Local Coastal Program. Adopted January 12, 1981. Last amended July 7, 2014. https://www.grover.org/DocumentCenter/Home/View/1808 (accessed January 2020).

Holland, Robert F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Wildlife, Nongame Heritage Program.

Mayer, Kenneth and William F. Laudenslayer. 1988. A Guide to Wildlife Habitats of California. California Wildlife Habitat Relationship System (CWHR). https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats (accessed January 2020).

National Marine Fisheries Service (NMFS). 2013. South-Central California Coast Steelhead Recovery Plan. West Coast Region. California Coastal Office. Long Beach, California. https://repository.library.noaa.gov/view/noaa/17275 (accessed April 2020).

National Oceanic and Atmospheric Administration. 2000. "Designation Critical Habitat: Critical Habitat for 19 Evolutionarily Significant Units of Salmon and Steelhead in Washington, Oregon, Idaho, and California." Adopted February 16, 2000. https://www.federalregister.gov/documents/2000/02/16/00-3553/designated-critical-habitat-critical-habitat-for-19-evolutionarily-significant-units-of-salmon-and (accessed April 2020).

San Luis Obispo, County of. 2010. County of San Luis Obispo General Plan Conservation and Open Space Element. https://www.slocounty.ca.gov/getattachment/ba01754b-50ac-4c13-ba16-1a9eb9d56a01/Conservation-and-Open-Space-Element.aspx (accessed January 2020).

____. 2015. San Luis Obispo County General Plan Land Use and Circulation Elements – Framework for Planning (Inland). Adopted September 22, 1980. Amended April 2015.

____. 2018. San Luis Obispo County General Plan Land Use and Circulation Elements – Framework for Planning – Coastal Zone. Adopted March 1, 1988. Amended September 2018.

____. 2019. Coastal Zone Land Use Ordinance. Adopted March 1, 1988. Revised April 2019. https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Ordinances/Coastal-Land-Use-Ordinance-(Title-23).aspx (accessed January 2020).

Sawyer, J. O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, California.

State Water Resources Control Board. 2019. Water Quality Control Plan: Ocean Waters of California (Ocean Plan). Revised 2019. https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oceanplan2019.pdf (accessed December 2019).

Stebbins, R. C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 2nd ed. Houghton-Mifflin Company. Boston, Massachusetts.

Stetson Engineers, Inc. 2004. *Final Draft Arroyo Grande Creek Habitat Conservation Plan (HCP) and Environmental Assessment/Initial Study (EA/IS) for the Protection of Steelhead and California Red-Legged Frogs*. February 2004. https://www.slocounty.ca.gov/getattachment/c6eac407-21b4-4fb8-88af-fd123b0d0951/DRAFT-Arroyo-Grande-Creek-Habitat-Conservation-Plan.aspx (accessed January 2020).

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). 1984. Soil Survey of San Luis Obispo County, California. Coastal Part. https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/sanluiscoastalCA1984/sanluiscoastalCA1984.pdf (accessed January 2020).

____. 2019. Web Soil Survey. National Cooperative Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/.

United States Environmental Protection Agency (USEPA). 1995. *Federal Guidance for the Establishment, Use and Operation of Mitigation Banks*. November 28, 1995. https://www.epa.gov/cwa-404/federal-guidance-establishment-use-and-operation-mitigation-banks (accessed April 2020).

United States Fish and Wildlife Service (USFWS). 2002. *Recovery Plan for the California Red-Legged Frog* (*Rana aurora draytonii*). Portland, Oregon.

____. 2015. 5-Year Review: Summary and Evaluation of the Southern Sea Otter https://www.fws.gov/ventura/docs/species/sso/Southern%20Sea%20Otter%205%20Year%20Review.pdf (accessed April 2020).

____. 2019a. "Information for Planning and Consultation (IpaC) online project planning tool." https://ecos.fws.gov/ipac/ (accessed January 2020).

____. 2019b. Critical Habitat Portal. https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77 (accessed January 2020).

____. 2019c. National Wetlands Inventory. Available at: https://www.fws.gov/wetlands/data/mapper.html

____. 2020. "Assessing the status of the monarch butterfly." Last modified: January 23, 2020. https://www.fws.gov/savethemonarch/SSA.html (accessed April 2020).

United States Geological Survey (USGS). 2019. The National Map. https://viewer.nationalmap.gov/advanced-viewer/ (accessed January 2020).

Xerces Society. 2020. Western Monarch Overwintering Sites. https://www.westernmonarchcount.org/find-an-overwintering-site-near-you/ (accessed April 2020).

Cultural Resources

National Park Service 1983. Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. https://www.nps.gov/history/local-law/arch_stnds_0.htm (accessed April 2020)

National Park Service. 1990. How to Apply the National Register Criteria for Evaluation. https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf (accessed April 2020)

Pismo Beach, City of. 2014. Amended Conservation & Open Space Element. https://www.pismobeach.org/DocumentCenter/View/225/04-Amended-ConservationOpen-Space?bidId= (accessed January 2020).

Rincon Consultants, Inc. (Rincon). 2020. Central Coast Blue Project Cultural Resources Assessment Report. Rincon Project No. 15-01882. on file at the Central Coast Information Center, University of California, Santa Barbara.

San Luis Obispo, County of. 2010. General Plan, Conservation and Open Space Element, Appendix 4 Cultural Resources. Adopted by the San Luis Obispo County Board of Supervisors, May 11, 2010, Resolution 2010-151.

Energy

Arroyo Grande, City of. 2013. City of Arroyo Grande Climate Action Plan. Adopted November 26, 2013. http://worldcat.org/arcviewer/12/CBG/2016/08/29/H1472506748215/viewer/file2.pdf (accessed December 2019).

California Air Resources Board (CARB). 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011. http://www.arb.ca.gov/regact/2012/leviiighg2012/levisor.pdf (accessed December 2019).

____. 2017. California's 2017 Climate Change Scoping Plan. November 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed December 2019).

California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR). 2019a. *Division of Oil, Gas & Geothermal Resources – Well Finder*. https://maps.conservation.ca.gov/doggr/wellfinder/#close (accessed December 2019).

____. 2019b. *2018 Report of California Oil and Gas Production Statistics*. October 1, 2019. https://www.conservation.ca.gov/dog/pubs_stats/annual_reports/Pages/annual_reports.aspx (accessed December 2019).

California Department of Finance. 2019. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (accessed December 2019).

California Energy Commission (CEC). 2003. Reducing California's Petroleum Dependence. Joint Agency Report with California Air Resources Board. https://ww3.arb.ca.gov/fuels/carefinery/ab2076final.pdf (accessed December 2019).

____. 2007. State Alternative Fuels Plan. https://ww2.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF (accessed December 2019).

____. 2012. 2012 Bioenergy Action Plan. Prepared by the Bioenergy Interagency Working Group. http://resources.ca.gov/docs/energy_and_climate_change/2012_Bioenergy_Action_Plan.pdf (accessed December 2019).

____. 2018a. *California Natural Gas Utility Service Areas*. June 28, 2018. https://www.energy.ca.gov/maps/serviceareas/natural_gas_service_areas.pdf (accessed December 2019).

_____. 2018b. "News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation." http://www.energy.ca.gov/releases/2018_releases/2018-05-09_building_standards_adopted_nr.html (accessed December 2019).

_____. 2018c. "2019 Building Energy and Efficiency Standards Frequently Asked Questions." Available at http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

_____. 2019a. Oil Supply Sources to California Refineries. http://www.energy.ca.gov/almanac/petroleum_data/statistics/crude_oil_receipts.html (accessed December 2019).

____. 2019b. "Electric Generation Capacity & Energy." https://ww2.energy.ca.gov/almanac/electricity_data/electric_generation_capacity.html (accessed December 2019).

_____. 2019c. *Toward A Clean Energy Future, 2018 Integrated Energy Policy Report Update*. Volumes I and II. https://ww2.energy.ca.gov/2018_energypolicy/ (accessed December 2019).

_____. 2019d. "Supply and Demand of Natural Gas in California." https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html (accessed December 2019).

____. 2019e. "California Energy Consumption Database." http://ecdms.energy.ca.gov/ (accessed December 2019).

____. 2019f. "California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets." Last modified: July 1, 2019. https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.htmll

California Gas and Electric Utilities (CGEU). 2018. 2018 California Gas Report. Decision D.95-01-039.

California Public Utilities Commission. 2008. 2008 Update to the Energy Action Plan. https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/2008%20Energy%20Action%20Plan%20Update.pdf (accessed December 2019).

Carpinteria Valley Water District (CVWD). 2019. *Final Environmental Impact Report for the Carpinteria Advanced Purification Project*. SCH#2019011016. November 2019. http://cvwd.net/capp/project-information/#reports-and-studies (accessed December 2019).

GasBuddy. 2019. "Gas Price Map." www.gasbuddy.com (accessed December 2019).

Grover Beach, City of. 2012. *City of Grover Beach General Plan Land Use Element*. Adopted February 16, 2010. Amended August 6, 2012. https://www.grover.org/index.aspx?NID=230 (accessed December 2019).

____. 2014. City of Grover Beach Final Climate Action Plan. Adopted September 15, 2014. http://www.grover.org/index.aspx?NID=230 (accessed December 2019).

Pacific Gas & Electric (PG&E). 2018. I*ntegrated Resource Plan 2018*. August 1, 2018. https://www.pge.com/en_US/for-our-business-partners/energy-supply/integrated-resource-plan/integrated-resource-plan.page (accessed December 2019).

____. 2019a. "Company Profile." https://www.pge.com/en_US/about-pge/company-information/profile/profile.page (accessed December 2019).

____. 2019b. "Exploring clean energy solutions." https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page (accessed December 2019).

Pismo Beach, City of. 2014. City of Pismo Beach Climate Action Plan. Adopted May 2014. http://www.pismobeach.org/DocumentCenter/View/43549/Climate-Action-Plan-May-2014?bidId= (accessed December 2019).

Southern California Gas Company (SoCal Gas). 2019a. "Pipeline Integrity." https://www.socalgas.com/stay-safe/pipeline-and-storage-safety/pipeline-integrity

____. 2019b. "Gas Transmission Pipeline Interactive Map – San Luis Obispo." http://socalgas.maps.arcgis.com/apps/webappviewer/index.html?id=bfa7495ffe5248f3af195b524284a5aa (accessed December 2019).

United States Department of Energy (U.S. DOE). 2019. "Alternative Fuels Data Center." https://afdc.energy.gov/fuels/biodiesel_locations.html#/find/nearest?fuel=BD&location=california&page=1 (accessed December 2019).

United States Department of Transportation. 2014. "Corporate Average Fuel Economy (CAFE) Standards." Last modified: August 27, 2014. https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards (accessed December 2019).

United States Energy Information Administration (EIA). 2019a. "Petroleum & Other Liquids, California Field Production of Crude Oil." https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA1&f=M (accessed December 2019).

_____. 2019b. "U.S. Energy Mapping System." https://www.eia.gov/state/maps.php (accessed December 2019).

United States Environmental Protection Agency (U.S. EPA). 2019a. "History." https://www.energystar.gov/about/history-0 (accessed December 2019).

____. 2019b. “Trump Administration Announces One National Program Rule on Federal Preemption of State Fuel Economy Standards.” https://www.epa.gov/newsreleases/trump-administration-announces-one-national-program-rule-federal-preemption-state-fuel (accessed December 2019).

VCA Green. 2019. “5 Things to Expect from the CALGreen 2019 Code.” https://vca-green.com/5-things-to-expect-from-the-calgreen-2019-code/ (accessed December 2019).

Water Systems Consulting. 2013. *Condition Assessment of Well #5 and Well #23 Technical Memorandum*. July 1, 2013.

Environmental Justice

California Department of Water Resources. 2016. *2016 Integrated Regional Water Management Grant Program Guidelines*. July 2016. https://water.ca.gov/Work-With-Us/Grants-And-Loans/-/media/DWR-Website/Web-Pages/Programs/Integrated-Regional-Water-Management/Mapping-Tools/Files/Proposition-1-IRWM-Guidelines-2016.pdf?la=en&hash=22795F39C1313415BCD85E24677D4060D7D9D433 (accessed December 2019).

California Office of Environmental Health Hazard Assessment (OEHHA). 2017. “Disadvantaged Community Designation (Updated June 2017).” Last modified: June 2017. https://oehha.ca.gov/calenviroscreen/sb535 (accessed December 2019).

____. 2018. “CalEnviroScreen 3.0 (updated June 2018.” Last modified: June 25, 2018. oehha.ca.gov/calenviroscreen/report/calenviroscreen-30 (accessed December 2019).

United States Census Bureau. 2010. “Race and Hispanic or Latino Origin: 2010.” https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml (accessed December 2019).

____. 2017. “Selected Economic Characteristics: 2013-2017 American Community Survey 5-Year Estimates.” https://www.census.gov/programs-surveys/acs/ (accessed December 2019).

____. 2019. “How the Census Bureau Measures Poverty.” Last modified: August 27, 2019. https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html (accessed December 2019).

United States Environmental Protection Agency (U.S. EPA). 1998. Final Guidance for Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analyses. https://19january2017snapshot.epa.gov/sites/production/files/2014-08/documents/ej_guidance_nepa_epa0498.pdf (accessed December 2019).

____. 2016. Technical Guidance for Assessing Environmental Justice in Regulatory Analysis. June 2016. https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf (accessed December 2019).

____. 2018. “Summary of Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” Last modified: September 17, 2018. https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice (accessed December 2019).

Greenhouse Gas Emissions

Arroyo Grande, City of. 2013. City of Arroyo Grande Climate Action Plan. Adopted November 26, 2013. http://worldcat.org/arcviewer/12/CBG/2016/08/29/H1472506748215/viewer/file2.pdf (accessed December 2019).

California Air Pollution Control Officers Association. 2017. California Emissions Estimator Model User Guide: Version 2016.3.2. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. http://www.aqmd.gov/docs/default-source/caleemod/user's-guide---october-2017.pdf?sfvrsn=6 (accessed December 2019).

California Air Resources Board (CARB). 2008. Climate Change Scoping Plan. December 2008. https://ww3.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm (accessed December 2019).

____. 2014.First Update to the Climate Change Scoping Plan. May 2014. ww3.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm (accessed December 2019).

____. 2017. California's 2017 Climate Change Scoping Plan. November 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed December 2019).

____. 2018. EMFAC2017 Volume III – Technical Documentation v.1.0.2. July 20, 2018. https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf (accessed December 2019).

_____. 2019a. California Greenhouse Gas Emissions for 2000 to 2017 – Trends of Emissions and Other Indicators. https://ww3.arb.ca.gov/cc/inventory/data/data.htm (accessed December 2019).

____. 2019b. EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017/ (accessed November 2019).

California Climate Change Center (CCCC). 2006. Climate Scenarios for California.

California Department of Food and Agriculture. 2019. "California Agricultural Production Statistics." Available at https://www.cdfa.ca.gov/statistics/

California Department of Water Resources. 2018. Indicators of Climate Change in California. May 2018. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf (accessed January 2020).

California Energy Commission (CEC). 2018. "2019 Building Energy and Efficiency Standards Frequently Asked Questions." http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf (accessed December 2019).

California Environmental Protection Agency (CalEPA). 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature. Available at http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF

California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf (accessed April 2020).

California Public Utilities Commission (CPUC). 2011. Renewables Portfolio Standard Quarterly Report. 1st Quarter 2011. http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5858 (accessed December 2019).

Carpinteria Valley Water District (CVWD). 2019. *Final Environmental Impact Report for the Carpinteria Advanced Purification Project*. SCH#2019011016. November 2019. http://cvwd.net/capp/project-information/#reports-and-studies (accessed December 2019).

Grover Beach, City of. 2014. City of Grover Beach Final Climate Action Plan. Adopted September 15, 2014. http://www.grover.org/index.aspx?NID=230 (accessed December 2019).

Intergovernmental Panel on Climate Change (IPCC). 2007. Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

____. 2014. Climate Change 2014: Mitigation of Climate Change. Summary for Policymakers - Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

____. 2018. Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. https://www.ipcc.ch/sr15/ (accessed December 2019).

National Oceanic and Atmospheric Administration. 2019. "Global Climate Report – Annual 2018." January 2019. https://www.ncdc.noaa.gov/sotc/global/201813 (accessed January 2020).

Parmesan, C. August 2006. Ecological and Evolutionary Responses to Recent Climate Change.

Pismo Beach, City of. 2014. City of Pismo Beach Climate Action Plan. Adopted May 2014. http://www.pismobeach.org/DocumentCenter/View/43549/Climate-Action-Plan-May-2014?bidId= (accessed December 2019).

San Luis Obispo Council of Governments (SLOCOG). 2019. 2019 Regional Transportation Plan: Connecting Communities. https://slocog.org/2019RTP (accessed December 2019).

San Luis Obispo County Air Pollution Control District (SLOAPCD). 2012a. CEQA Air Quality Handbook. 2012. http://www.slocleanair.org/images/cms/upload/files/CEQA_Handbook_2012_v1.pdf (accessed December 2019).

____. 2012b. Greenhouse Gas Thresholds and Supporting Evidence. https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/Greenhouse%20Gas%20Thresholds%20and%20Supporting%20Evidence%204-2-2012.pdf (accessed December 2019).

State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. Available at http://www.climateassessment.ca.gov/state/

United States Environmental Protection Agency (U.S. EPA). 2019. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2017. U. S. EPA #430-R-19-001. https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf (accessed December 2019).

Water Systems Consulting. 2013. *Condition Assessment of Well #5 and Well #23 Technical Memorandum*. July 1, 2013.

World Meteorological Organization (WMO). 2013. A summary of current and climate change findings and figures: a WMO information note. https://library.wmo.int/opac/index.php?lvl=notice_display&id=15892#.Wt9-Z8gvzIU (accessed December 2019).

Hazards and Hazardous Materials

California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Very High Fire Hazard Severity Zones in SRA – San Luis Obispo County*. November 21, 2007. https://osfm.fire.ca.gov/media/6797/fhszl_map40.pdf (accessed December 2019).

____. 2009. *Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE – Pismo Beach*. July 24, 2009. https://osfm.fire.ca.gov/media/5979/pismo_beach.pdf (accessed December 2019).

California Department of Toxic Substance Control (DTSC). 2019. EnviroStor database search. **Error! Hyperlink reference not valid.**https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=pismo+beach (accessed December 2019).

California Environmental Protection Agency. 2019. Cortese List Data Resources. https://calepa.ca.gov/sitecleanup/corteselist/ (accessed December 2019).

California State Water Resources Control Board (SWRCB). 2019a. GeoTracker database search. https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=pismo+beach (accessed December 2019).

_____. 2019b. List of “active” CDO and CAO from Water Board. https://calepa.ca.gov/sitecleanup/corteselist/ (accessed December 2019).

Grover Beach, City of. 2010. City of Grover Beach General Plan. Adopted February 16, 2019 and March 18, 2010. http://www.grover.org/DocumentCenter/Home/View/49 (accessed December 2019).

____. 2017. City of Arroyo Grande, City of Grover Beach, Lucia Mar Unified School District, and South San Luis Obispo County Sanitation District Multi-Jurisdictional Local Hazard Mitigation Plan. https://www.grover.org/DocumentCenter/Home/View/2698 (accessed December 2019).

Piper, Craig. 2020. Deputy Director, County of San Luis Obispo Department of Airports. Personal communication regarding installation of water distribution pipelines at Oceano County Airport with Matthew Downing, Planning Manager, City of Pismo Beach. February 24, 2020.

San Luis Obispo, County of and San Luis Obispo County Flood Control and Water Conservation District. 2014. Local Hazard Mitigation Plan. December 2014. https://www.slocounty.ca.gov/getattachment/d0a4a5c9-7d80-4751-bbfe-36f64d86c68b/Local-Hazard-Mitigation-Plan.aspx (accessed December 2019)

San Luis Obispo, County of. 2016. Emergency Operations Plan. December 2016. https://www.slocounty.ca.gov/getattachment/40e9d234-8576-41a1-82fe-a07f3b67a20a/County-Emergency-Operations-Plan-(EOP).aspx (accessed December 2019).

____. 2018. Coastal Zone Framework for Planning. San Luis Obispo County General Plan: Local Coastal Program. https://www.slocounty.ca.gov/getattachment/d5c45208-d766-4cb6-ba83-0e41b8848f4d/Framework-for-Planning-Coastal-Zone.aspx (accessed December 2019).

San Luis Obispo County Airport Land Use Commission. 2007. Airport Land Use Plan for the Oceano County Airport. Adopted February 1976. Amended May 16, 2007. https://www.sloairport.com/airport-land-use-commission-aluc/ (accessed December 2019).

United States Environmental Protection Agency (U.S. EPA.) 2019. "Search Results." Superfund Enterprise Management System. https://enviro.epa.gov/enviro/efsystemquery.sems?fac_search=primary_name&fac_value=&fac_search_type=Beginning&postal_code=&location_address=&add_search_type=Beginning2&city_name=&county_name=San+Luis+Obispo&state_code=&program_search=multi&report=basic&page_no=1&output_sql_switch=TRUE&database_type=SEMS (accessed December 2019).

Hydrology and Water Quality

Arroyo Grande, City of. 2010. Storm Water Management Plan (SWMP). January 2010. https://www.arroyogrande.org/DocumentCenter/View/312/Stormwater-Management-Plan-PDF

Carollo Engineers. 2018. Reverse Osmosis (RO) Concentrate Sampling Plan Results. Appendix B of Technical Memorandum 3. November 2018.

Central Coast Regional Water Quality Control Board (RWQCB). 2013. Resolution No. R3-2013-0032 Approving Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region. July 12, 2013. https://www.waterboards.ca.gov/centralcoast/water_issues/programs/stormwater/docs/lid/hydromod_lid_docs/2013_0032resolution_signed.pdf

_____. 2015. Waste Discharge Requirements for the City of Pismo Beach Wastewater Treatment Facility. Draft Order No. R3-2015-0016. NPDES No. CA0048151. Adopted November 19, 2015. https://waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2015/2015_0016_npdes.pdf.pdf

_____. 2016. National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Highly Treated Groundwater to Surface Waters. Adopted December 8, 2016. https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2016/2016_0035_order.pdf

_____. 2019a. Water Quality Control Plan for the Central Coastal Basin (Basin Plan). June 2019. https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/docs/2019_basin_plan_r3_complete.pdf

_____. 2019b. Waste Discharge Requirements for the South San Luis Obispo County Sanitation District (SSLOCSD) Wastewater Treatment Facility. Draft Order No. R3-2019-0002. NPDES No. CA0048003. Adopted January 31, 2019. https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2019/order_2019_0002_final.pdf

Engelskirger, Nola. 2020. Capital Projects Manager, County of San Luis Obispo. Personal communication regarding the Meadow Creek Lagoon Restoration Plan with Daniel Heimel, Engineer, Water Systems Consulting. June 10, 2020.

GEOSCIENCE Support Services (GEOSCIENCE). 2019. City of Pismo Beach and South San Luis Obispo County Sanitation District Central Coast Blue Phase 1B Hydrogeologic Evaluation. November 25, 2019.

Grover Beach, City of. 2010. Storm Water Management Program. March 2010. http://www.grover.org/documentcenter/view/88

_____. 2014. Local Coastal Program. April 2014. https://www.grover.org/DocumentCenter/Home/View/1808

National Academy of Sciences. 2012. "Water Reuse: Potential for Expanding the Nation's Water Supply through Reuse of Municipal Wastewater." https://www.nap.edu/resource/13303/Water-Reuse-Report-Brief-Final.pdf

Northern Cities Management Area (NCMA) Technical Group. 2019. 2018 Annual Monitoring Report. April 24, 2019. http://www.pismobeach.org/DocumentCenter/View/42377/NCMA-2018-Annual-Monitoring-Report?bidId=

Pismo Beach, City of. 2011. Stormwater Management Program. August 2011. http://pismobeach.org/DocumentCenter/View/6597/01-Introduction-to-SWMP?bidId=

_____. 2016. 2015 Urban Water Management Plan. June 29, 2016. https://wuedata.water.ca.gov/public/uwmp_attachments/2402372062/Pismo%20Beach%202015%20UWMP%20Final.pdf

San Luis Obispo County Flood Control and Water Conservation District (SLO County FCWCD). 2014. San Luis Obispo County Integrated Regional Water Management Plan (IRWMP). July 2014. http://www.slocountywater.org/site/Frequent%20Downloads/Integrated%20Regional%20Water%20Management%20Plan/IRWM%20Plan%20Update%202014/index.htm (accessed December 2019)

State Water Resources Control Board (SWRCB). 2018. Water Quality Control Policy for Recycled Water (Recycled Water Policy). Adopted December 11, 2018. https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf

____. 2019. Water Quality Control Plan: Ocean Waters of California (Ocean Plan). Revised 2019. https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oceanplan2019.pdf

Land Use

Arroyo Grande and Grover Beach, Cities of. 1973. Open Space – Conservation Element. General Plan. http://www.grover.org/DocumentCenter/View/4134 (accessed January 2020).

California Coastal Commission (Coastal Commission). 2019. "Our Mission." https://www.coastal.ca.gov/whoweare.html (accessed December 2019).

Grover Beach, City of. 2010. City of Grover Beach General Plan. Adopted March 18, 2010. http://www.grover.org/DocumentCenter/Home/View/49 (accessed December 2019).

____. 2014. Local Coastal Program. https://www.grover.org/DocumentCenter/Home/View/1808 (accessed December 2019).

____. 2019. Development Code Adopted October 15, 2012 Amended May 15, 2017, January 8, 2018, May 21, 2018, March 18, 2019, and June 17, 2019. https://www.grover.org/DocumentCenter/View/2756/Chapter-2-Zones-and-Allowable-Land-Uses-Final?bidId= (accessed March 2020).

____. 2020. Conservation and Open Space Element Update. Adopted July 6, 2020.

Rincon Consultants. 2020. Extended Phase I and Phase II Investigation for the Central Coast Blue Test Injection Well Project, Oceano, California. March 13, 2020.

San Luis Obispo, County of. 2010. County of San Luis Obispo General Plan Conservation and Open Space Element. https://www.slocounty.ca.gov/getattachment/ba01754b-50ac-4c13-ba16-1a9eb9d56a01/Conservation-and-Open-Space-Element.aspx (accessed January 2020).

____. 2018. Coastal Zone Framework for Planning. San Luis Obispo County General Plan: Local Coastal Program. https://www.slocounty.ca.gov/getattachment/d5c45208-d766-4cb6-ba83-0e41b8848f4d/Framework-for-Planning-Coastal-Zone.aspx (accessed December 2019).

Noise

Arroyo Grande, City of. 2001. City of Arroyo Grande 2001 General Plan Update Noise Element. https://www.arroyogrande.org/142/Planning-Division (accessed December 2019).

Behrens and Associates, Inc. 2017. Colton Narrows Noise Impact Modeling Report. September 1, 2017.

California Department of Transportation (Caltrans). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. (CT-HWANP-RT-13-069.25.2) September.

____. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01). April. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf (accessed June 2020).

California State Water Resources Control Board (SWRCB) 1999. General Waste Discharge Requirements for Biosolids Land Application Draft Statewide Program EIR – Appendix G. Background Information on Acoustics. http://www.waterboards.ca.gov/water_issues/programs/biosolids/deir/appendices/app_g.pdf (accessed December 2019).

Crocker, Malcolm J. Crocker (Editor). 2007. Handbook of Noise and Vibration Control, ISBN: 978-0-471-39599-7, Wiley-VCH, October.

Diesel Service & Supply. 2019. "Generator Silencers and Mufflers." Accessed May 23, 2019. https://www.dieselserviceandsupply.com/Generator-Silencers.aspx

Echo Barrier. 2019. "Genset." https://www.echobarrier.com/product/genset-noise-barrier/ (accessed January 2020).

Federal Highway Administration (FHWA). 2006. Roadway Construction Noise Model User's Guide. Prepared by U.S. Department of Transportation Research and Innovative Technology Administration. Prepared for U.S. Department of Transportation Federal Highway Administration, Office of Natural and Human Environment. Washington, DC. January 2006.

____. 2011. Highway Traffic Noise: Analysis and Abatement Guidance (FHWA-HEP-10-025). https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf (accessed December 2019).

Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment. FTA Report No. 0123. Washington, D.C. September 2018. https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration (accessed December 2019).

Grover Beach, City of. 1993. City of Grover Beach General Plan Noise Element. Adopted June 21, 1993. https://www.grover.org/index.aspx?NID=230 (accessed December 2019).

____. 2005. City of Grover Beach General Plan: Circulation Element. http://www.grover.org/DocumentView.aspx?DID=52 (accessed December 2019).

Illingworth & Rodkin, Inc. 2009. Wal-Mart Expansion, Williamson Ranch Plaza (Antioch, California) Environmental Noise Assessment.

Kinsler, Lawrence E. and R. Frey, Austin and B. Coppens, Alan and V. Sanders, James. 1999. Fundamentals of Acoustics, 4th Edition. ISBN 0-471-84789-5. Wiley-VCH, December 1999.

Pismo Beach, City of. 2014. City of Pismo Beach General Plan & Local Coastal Program. Adopted November 1992. Amended April 2014. https://www.pismobeach.org/109/General-Plan (accessed December 2019).

Rincon Consultants, Inc. 2019. Wastewater Treatment Facility Redundancy Project Biological Evaluation. November 8, 2019.

San Luis Obispo County Airport Land Use Commission. 2007. Airport Land Use Plan for the Oceano County Airport. Adopted February 1976. Amended May 16, 2007. https://www.sloairport.com/airport-land-use-commission-aluc/ (accessed August 2019).

San Luis Obispo, County of. 1992. County of San Luis Obispo General Plan Noise Element. Adopted May 5, 1992. https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Plans/Elements.aspx (accessed December 2019).

____. 2015. San Luis Obispo County General Plan Land Use and Circulation Elements – Framework for Planning (Inland). Adopted September 22, 1980. Amended April 2015.

____. 2018. San Luis Obispo County General Plan Land Use and Circulation Elements – Framework for Planning – Coastal Zone. Adopted March 1, 1988. Amended September 2018.

Transportation

Amtrak. 2019. "Timetable." October14, 2019. https://www.pacificsurfliner.com/plan-your-trip/schedules/ (accessed December 2019).

California Department of Transportation. 2019. "2017 Traffic Volumes." https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017 (accessed December 2019).

Grover Beach, City of. 2005. *City of Grover Beach General Plan: Circulation Element.* http://www.grover.org/DocumentView.aspx?DID=52 (accessed on December 17, 2019).

____. 2006. *City of Grover Beach Standards and Specifications*. Adopted June 5, 2006. http://www.grover.org/DocumentCenter/Home/View/268 (accessed December 2019).

____. 2010. City of Grover Beach General Plan. Adopted February 16, 2019 and March 18, 2010. http://www.grover.org/DocumentCenter/Home/View/49 (accessed December 2019).

____.2011. *City of Grover Beach Bicycle Master Plan*. January 2011. http://www.grover.org/documentcenter/view/1941 (accessed December 2019).

Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018. http://opr.ca.gov/ceqa/updates/sb-743/ (accessed March 2020).

Piper, Craig. 2020. Deputy Director, County of San Luis Obispo Department of Airports. Personal communication regarding installation of water distribution pipelines at Oceano County Airport with Matthew Downing, Planning Manager, City of Pismo Beach. February 24, 2020.

Pismo Beach, City of. 2018. *City of Pismo Beach General Plan: Circulation Element.* Adopted June 5, 2018. https://www.pismobeach.org/109/General-Plan (accessed December 2019)

San Luis Obispo Council of Governments (SLOCOG). June 5, 2019. *2019 Regional Transportation Plan, Connecting Communities: Moving Forward, Connecting Communities.* https://www.slocog.org/2019RTP (accessed on December 18, 2019)

San Luis Obispo, County of. 2001. *Oceano Specific Plan*. Adopted April 2, 2002. Amended October 2008. https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Plans/Specific-Plans.aspx (accessed on December 17, 2019).

_____. 2010. *San Luis Obispo County Bikeways Plan*. Adopted November 23, 2010. http://www.slocounty.ca.gov/PW/Traffic/BAC. (accessed December 17, 2019).

_____. 2017. Department of Planning & Building: Oceano URL Circulation Map. https://www.slocounty.ca.gov/getattachment/66bfa908-e11d-4b45-af9f-b8c3857af5b8/Oceano-URL-(Coastal)-Circulation-Map.aspx (accessed on December 2019).

____. 2019. *County of San Luis Obispo Public Improvement Standards*. June 2019. https://www.slocounty.ca.gov/Departments/Public-Works/Forms-Documents/Development-Services/Public-Improvements/Public-Improvement-Standards.aspx (accessed December 2019).

San Luis Obispo County Airport Land Use Commission. 2007. Airport Land Use Plan for the Oceano County Airport. Adopted February 1976. Amended May 16, 2007. https://www.sloairport.com/airport-land-use-commission-aluc/ (accessed December 2019).

San Luis Obispo Regional Transportation Authority. 2019. South County Transit (SoCo Transit). https://www.slorta.org/about-rta/south-county-transit-sct/ (accessed December 2019).

South County Transit. 2016. SCT Service Map. Effective July 30, 2016. https://www.slorta.org/about-rta/south-county-transit-sct/ (accessed on December 17, 2019).

Union Pacific Railroad. 2019. "Pipeline Installation Procedures for Crossings." https://www.up.com/real_estate/utilities/pipeline/pipeline_procedure/index.htm (accessed December 2019).

Effects Found Not to Be Significant

California Department of Conservation. 2016. San Luis Obispo County Important Farmland. Division of Land Resource Management: Farmland Mapping and Monitoring Program.

California Department of Transportation (Caltrans). 2017. "Scenic Highways." http://www.dot.ca.gov/design/lap/livability/scenic-highways/ (accessed January 2020).

California Geologic Survey. 2011. Updated Mineral Land Classification for Concrete-Grade Aggregates in the San Luis Obispo-Santa Barbara Production-Consumption Region, California – North Half by Lawrence L. Bush (PG 6440) and Russell V. Miller (PG 3331). Special Report 215, Plate 1A.

____. 2019. California Department of Conservation. EQ Zapp: California Earthquake Hazards Zone Application. https://www.conservation.ca.gov/cgs/geohazards/eq-zapp (accessed December 2019).

California Department of Resources Recycling and Recovery. 2015. Cold Canyon Landfill, Inc. (40-AA-0004). SWIS Facility Detail. https://www2.calrecycle.ca.gov/SWFacilities/Directory/40-AA-0004/Detail/ (accessed January 2020).

Grover Beach, City of. 2020. Conservation and Open Space Element update. Adopted July 6, 2020.

Hall, C.A. 1973. Geology of the Arroyo Grande 15' Quadrangle, San Luis Obispo County, California: California Division of Mines and Geology, Map Sheet 24, scale 1:48,000.

Holland, P.J. 2013. Preliminary Geologic Map of the Oceano 7.5' Quadrangle, San Luis Obispo County, California: A Digital Database, Version 1.0: California Geological Survey, scale 1:24,000.

San Luis Obispo, County of. San Luis Obispo County and San Luis Obispo County Flood Control and Water Conservation District Local Hazard Mitigation Plan. FEMA approved December 2014. https://www.slocounty.ca.gov/getattachment/d0a4a5c9-7d80-4751-bbfe-36f64d86c68b/Local-Hazard-Mitigation-Plan.aspx (accessed December 2019).

San Luis Obispo, County of. 2006. *Fault Hazards: County of San Luis Obispo.* https://www.slocounty.ca.gov/getattachment/d2629f22-c617-4c36-b4c8-9f384392aafd/2-Fault-Hazards-Map.aspx (accessed December 2019).

____. 2010. Agriculture Element. Adopted by the San Luis Obispo County Board of Supervisors on December 15, 1998. Amended November 2006. Separated from the Open Space Element May 11, 2010. https://www.slocounty.ca.gov/getattachment/72316c5b-f626-456c-8cd6-e81e6d6baf47/Agriculture-Element.aspx (accessed December 2019).

____. 2013. Map 3: Liquefaction Hazards San Luis Obispo County. https://www.slocounty.ca.gov/getattachment/e103a5ef-9aa1-4ca1-9262-be34392741c4/3-Liquefaction-Hazards-Map.aspx (accessed December 2019).

____ 2015. *General Plan Conservation and Open Space Element*. San Luis Obispo, CA. Adopted May 11, 2010. Amended March 24, 2015. https://www.slocounty.ca.gov/getattachment/ba01754b-50ac-4c13-ba16-1a9eb9d56a01/Conservation-and-Open-Space-Element.aspx (accessed December 2019).

____. 2017. Extractive Resource Area Combining Designation. December 27, 2017. http://opendata.slocounty.ca.gov/datasets/32e00657ebd74ca0b1af9b9a176bda82_64?geometry=-121.020%2C35.076%2C-120.367%2C35.174 (accessed December 2019).

____. 2018. Sensitive Resource Area Combining Designation. January 4, 2018. Available online at: http://opendata.slocounty.ca.gov/datasets/a1eca058b96a478bbb484b30d8cbb495_70?geometry=-120.809%2C35.096%2C-120.483%2C35.145 (accessed December 2019).

San Luis Obispo County Airport Land Use Commission. 2007. Airport Land Use Plan for the Oceano County Airport. Adopted February 1976. Amended May 16, 2007. https://www.sloairport.com/airport-land-use-commission-aluc/ (accessed December 2019).

San Luis Obispo County Parks and Recreation Department. 2019. Coastal Dunes RV Park & Campground. Camping. https://slocountyparks.com/camp/coastal-dunes/ (accessed December 2019).

United States Department of Agriculture (USDA). 1984. Soil Survey of San Luis Obispo County, CA: Coastal Part. https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/sanluiscoastalCA1984/sanluiscoastalCA1984.pdf (accessed December 2019).

____. 2007. Part 630 Hydrology National Engineering Handbook. May 2007. https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba (accessed December 2019).

____. 2018. "Web Soil Survey." Last modified: September 12, 2018. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed December 2019).

Wiegers, M.O. 2011. Preliminary Geologic Map of the Pismo Beach 7.5' Quadrangle, San Luis Obispo County, California: A Digital Database, Version 1.0: California Geological Survey, scale 1:24,000.

____. 2013. Preliminary Geologic Map of the Arroyo Grande NE 7.5' Quadrangle, San Luis Obispo County, California: A Digital Database, Version 1.0: California Geological Survey, scale 1:24,000.

Other CEQA-Required Discussions

Arroyo Grande, City of. 2017. *2016 Urban Water Management Plan for the City of Arroyo Grande*. January 9, 2017. https://www.arroyogrande.org/DocumentCenter/View/4038/2015-Amended-Urban-Water-Management-Plan-PDF (accessed January 2020).

Grover Beach, City of. 2011. *2010 Urban Water Management Plan*. Adopted June 20, 2011. https://www.grover.org/DocumentCenter/Home/View/1514 (accessed December 2020).

Northern Cities Management Area (NCMA) Technical Group. 2018. Northern Cities Management Area 2017 Annual Monitoring Report. April 22, 2018. https://www.pismobeach.org/DocumentCenter/View/42377/NCMA-2017-Annual-Monitoring-Report?bidId= (accessed December 2019).

Pismo Beach, City of. 2016. 2015 Urban Water Management Plan for the City of Pismo Beach. June 29, 2016. http://www.pismobeach.org/DocumentCenter/View/3785/Urban-Water-Mgmt-Plan---2015?bidId= (accessed January 2020).

Federal Cross-Cutting Environmental Regulations Evaluation

California State Parks. 2016. "Pismo State Beach Oceano Campground." https://www.parks.ca.gov/pages/595/files/PismoSBCampgroundMap_Oceano022117.pdf (accessed January 2020).

Grover Beach, City of. 2019. "South County Trail Brochure." https://www.grover.org/index.aspx?NID=240 (accessed January 2020).

National Wild and Scenic Rivers System. 2019. "California." https://www.rivers.gov/california.php (accessed December 2019).

RRM Design Group. 2010. *Beach Cities Multi-Purpose Trail - Trail Feasibility Study*. March 2010. https://www.grover.org/DocumentCenter/Home/View/1520 (accessed January 2020).

San Luis Obispo, County of. 2019. "Trails." https://slocountyparks.com/trails/ (accessed January 2020).

United States Environmental Protection Agency. 2019. "Sole Source Aquifers." https://www.epa.gov/dwssa/map-sole-source-aquifer-locations (accessed December 2019).

Alternatives

Arroyo Grande, City of. 2017. *2016 Urban Water Management Plan for the City of Arroyo Grande*. January 9, 2017. https://www.arroyogrande.org/DocumentCenter/View/4038/2015-Amended-Urban-Water-Management-Plan-PDF (accessed January 2020).

California Air Pollution Control Officers Association. 2017. California Emissions Estimator Model User Guide: Version 2016.3.2. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. http://www.aqmd.gov/docs/default-source/caleemod/user's-guide---october-2017.pdf?sfvrsn=6 (accessed December 2019).

California Air Resources Board (CARB). 2017. California's 2017 Climate Change Scoping Plan. November 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed December 2019).

California Department of Water Resources. 2020a. SWP Management. https://water.ca.gov/Programs/State-Water-Project/Management (accessed May 2020).

____. 2020b. Water Transfers. https://water.ca.gov/Programs/State-Water-Project/Management/Water-Transfers (accessed October 2019)

Carollo. 2019. *City of Pismo Beach and Water Systems Consulting, Inc. Central Coast Blue Technical Memorandum 5 – Basis of Design Report.* February 2019.

Central Coast Water Authority. 2019. *FY 2019-20 Budget*. http://www.ccwa.com/Archives/Budgets/FY2019-20Budget.pdf (accessed April 2020).

Grover Beach, City of. 2011. *2010 Urban Water Management Plan*. Adopted June 20, 2011. https://www.grover.org/DocumentCenter/Home/View/1514 (accessed December 2020).

Northern Cities Management Area (NCMA) Technical Group. 2018. Northern Cities Management Area 2017 Annual Monitoring Report. April 22, 2018. https://www.pismobeach.org/DocumentCenter/View/42377/NCMA-2017-Annual-Monitoring-Report?bidId= (accessed December 2019).

Oceano Community Services District. 2020. "Water." https://oceanocsd.org/customer-services/district-services/water/ (accessed April 2020).

Pismo Beach, City of. 2016. *2015 Urban Water Management Plan for the City of Pismo Beach*. June 29, 2016. http://www.pismobeach.org/DocumentCenter/View/3785/Urban-Water-Mgmt-Plan---2015?bidId= (accessed January 2020).

San Luis Obispo County Air Pollution Control District (SLOAPCD). 2019. "SLOAPCD NOA Screening Buffers." http://www.slocleanair.org/rules-regulations/asbestos/noa.php (accessed December 2019).

San Luis Obispo, County of. 2016. *EnergyWise Plan – 2016 Update*. https://www.slocounty.ca.gov/getattachment/d8cf48aa-eeb4-403b-81cd-e5da063458dc/EnergyWise-Plan-2016-Update.aspx (accessed April 2020).

____. 2020. "State Water Project and Subcontractors Advisory Committee." https://www.slocounty.ca.gov/Departments/Public-Works/Committees-Programs/State-Water-Project-and-Subcontractors-Advisory-Co.aspx (accessed April 2020).

San Luis Obispo County Flood Control and Water Conservation District Zone 3. 2004. *Arroyo Grande Creek Habitat Conservation Plan (HCP) and Environmental Assessment/Initial Study for the Protection of Steelhead and California Red-Legged Frogs.* February 2004. https://www.slocounty.ca.gov/getattachment/c6eac407-21b4-4fb8-88af-fd123b0d0951/DRAFT-Arroyo-Grande-Creek-Habitat-Conservation-Plan.aspx

____. 2016. *Urban Water Management Plan 2015 Update*. June 2016. slocounty.ca.gov/Departments/Public-Works/Forms-Documents/Committees-Programs/Flood-Control-Zones/Zone-3-Lopez-Water-Project/Plans-Reports/2015-Urban-Water-Management-Plan.aspx (accessed April 2020).

____. 2019. "San Luis Obispo County Flood Control & Water Conservation District, Zone 3 – Lopez Water Treatment Plant – Improvements & Updates. https://www.slocounty.ca.gov/Departments/Public-Works/Forms-Documents/Committees-Programs/Flood-Control-Zones/Zone-3-Lopez-Water-Project/Plans-Reports/2019-Zone-3-(Lopez-Water-Project)-Information-Broc.aspx (accessed April 2020).

Stetson Engineers, Inc. 2013. *Lopez Lake Spillway Raise Project Report*. February 2013.

Water Systems Consulting (WSC). 2012. *Evaluation of the Capacity Relationship between the Lopez and the Santa Barbara County Turnouts of the Coastal Branch Pipeline – Final*. October 22, 2012.

____. 2015. *Recycled Water Facilities Planning Study – Final for the City of Pismo Beach*. April 2015.

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Virginia Dussell, Environmental Planning Intern
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Hannah Haas, MA, RPA, Senior Archaeologist
Steven Treffers, Senior Architectural Historian
Debbie Balam, Archaeologist
Dustin Merrick, Archaeologist
Mary Pfeiffer, Archaeologist
Susan Zamudio-Gurrola, Architectural Historian
Colby Boggs, Principal/Senior Ecologist
David Daitch, Ph.D., Principal
Derek Lerma, Marine Resources Program Manager
Doug Drynan, Senior Biologist
Mike Tom, Senior Biologist
Carolynn Daman, Biologist
Anastasia Ennis, Biologist
Jaime McClain, Marine Scientist/Biologist
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