Draft Initial Study

Carpinteria Advanced Purification Project

Prepared for:

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COMMITMENT & INTEGRITY DRIVE RESULTS

Carpinteria Valley Water District
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APPENDICES

N/A

Acronym

AB	Assembly Bill
ADT	Average Daily Trip
AF	Acre-Foot
AFY	Acre-Feet Per year
AOP	Advanced Oxidation Process
APCD	Air Pollution Control District
APE	Area of Potential Effect
AWPF	Advanced Water Purification Facility
BFE	Base Flood Elevation
BLM	Bureau of Land Management
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CAPP	Carpinteria Advanced Purification Project
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR	Code of Regulations
CDFW	California Department of Fish and Wildlife
CDFFP	California Department of Forestry and Fire Protection
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGGS	California Geological Survey
CH4	Methane
CIP	Clean-in-Place
City	City of Carpinteria
CNEL	Community Noise equivalent Level
CNPS	California Native Plant Society
CUP	Conditional Use Permit
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
CSD	Carpinteria Sanitary District
CWA	Clean Water Act
CVWD	Carpinteria Valley Water District
dB	Decibels
DDW	(SWRCB) Division of Drinking Water
DCE	Dichloroethene
DOC	(California) Department of Conservation
DTSC	(California) Department of Toxic Substances Control
DWR	(California) Department of Water Resources
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency

FIRM	Flood Insurance Rate Map
GAMA	Groundwater Ambient Monitoring and Assessment
FMMP	Farmland Monitoring and Mapping Program
GHG	Greenhouse Gas
GPM	Gallons Per Minute
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan
HFC	Hydroflourocarbons
HP	Horsepower
IS	Initial Study
kWh	Kilowatt-hour
lb	Pound
LF	Linear Feet
LOMR	Letter of Map Revision
LOS	Level of Service
LTS	Less Than Significant
LTS-M	Less Than Significant with Mitigation
LUFT	Leaking Underground Fuel Tank
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Limits
MF	Microfiltration
MGD	Million Gallons Per Day
MND	Mitigated Negative Declaration
MT	Metric Ton
MWh	Megawatt-hour
N2O	Nitrous Oxide
NCCP	Natural Community Conservation Plan
NF3	Nitrogen Trifluoride
NHPA	National Historic Preservation Act
NL	(DDW) Notification Level
NI	No Impact
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
O3	Ozone
OHW	Ordinary High Water
OES	Office of Emergency Services
PCE	Tetrachloroethylene
PFC	Perfluorocarbons
PM	Particulate Matter
PS	Potentially Significant
PWPS	Purified Water Pump Station

RO	Reverse Osmosis
ROC	Reactive Organic Compounds
ROW	Right-of-Way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alternation Agreement
SBCAG	Santa Barbara County Association of Governments
SBCAPCD	Santa Barbara County Air Pollution Control District
SF6	Sulfur Hexaflouride
SGMA	Sustainable Groundwater Management Act
SU	Significant and Unavoidable
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Daily Maximum Load
TOC	Total Organic Carbon
TCA	1,1,1-trichloroethane
TCE	Trichloroethylene
TDS	Total Dissolved Solids
UBC	Uniform Building Code
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
UWMP	Urban Water Management Plan
UV	Ultraviolet
UWMP	Urban Water Management Plan
WWTP	Wastewater Treatment Plant

1. INTRODUCTION

1.1 Project Overview

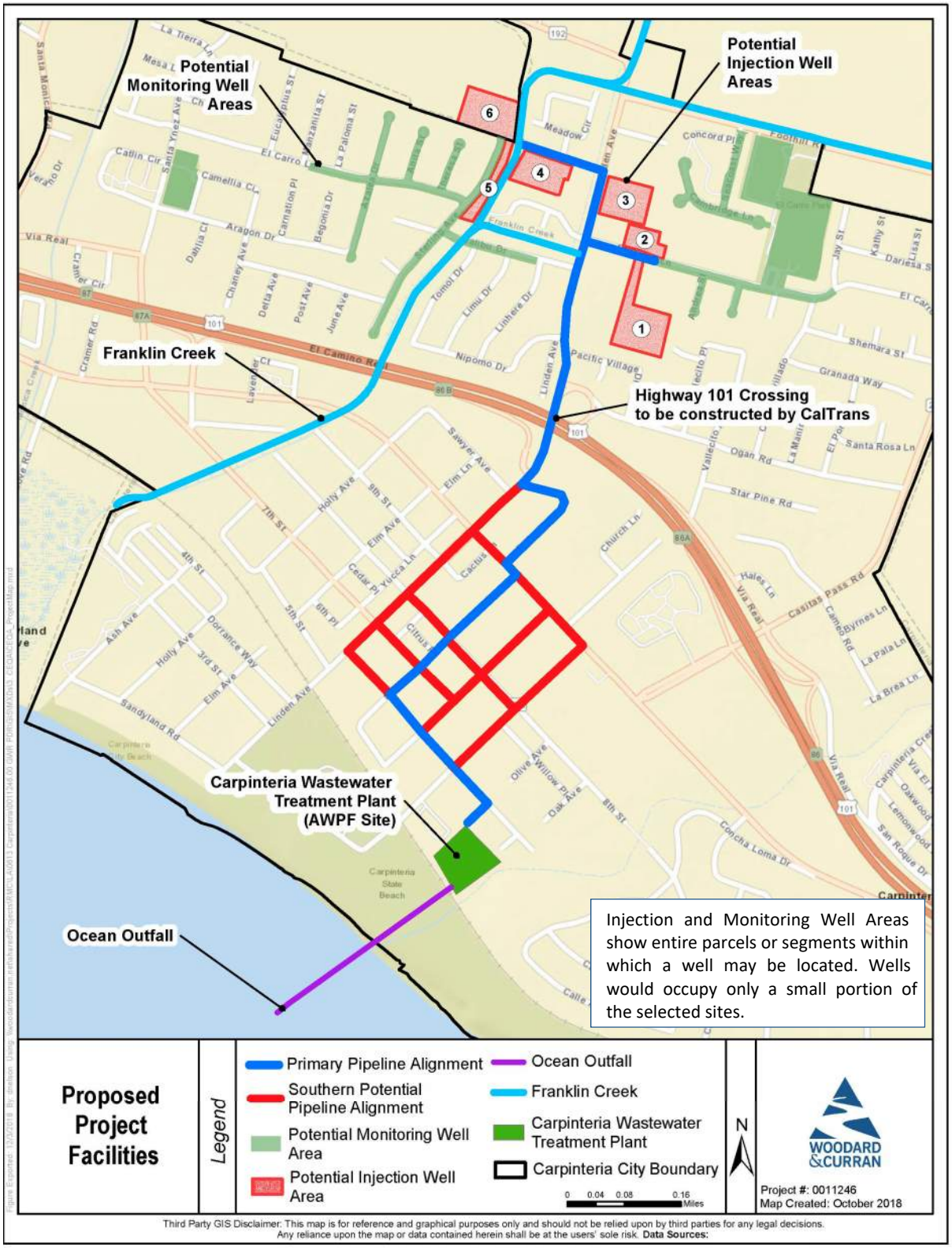
The objective of the proposed Carpinteria Advanced Purification Project (CAPP, or Proposed Project) is to develop a sustainable and locally controlled future water supply for Carpinteria Valley Water District (CVWD). The recent critical drought and projected changes to the area's existing water supplies highlight several water resource vulnerabilities and the need for a local, reliable water supply. Water supply issues include State Water Project (SWP) conveyance system capacity limitations, decreased reliability, and increasing costs to sustain reliability; projected yield reductions for the Cachuma Project, increased competition for Lake Cachuma storage, and vulnerability of Cachuma Project conveyance systems; and stricter groundwater management resulting from Sustainable Groundwater Management Act (SGMA) implementation. These vulnerabilities confirm the need for a local, reliable, and drought-resistant recycled water project.

In 2016, CVWD, along with Carpinteria Sanitary District (CSD) and City of Carpinteria (City), completed a *Recycled Water Facilities Plan* (CVWD 2015) that was partially funded by the California State Water Resources Control Board. This plan recommended alternatives for a recycled water project with groundwater recharge. The recommended project consists of producing approximately 1,100 acre-feet per year (AFY) (1.0 million gallons per day (MGD)) of purified water from the CSD Wastewater Treatment Plant (WWTP) for injection into the local groundwater basin, where it ultimately would be used for CVWD potable water supply. The ultimate project assumes an expansion from 1.0 MGD to 1.5 MGD based on projected future increases in WWTP flows. The ultimate CAPP includes the following facilities:

- Advanced Water Purification Facility (AWPF) consisting of equalization tank, microfiltration (MF), reverse osmosis (RO), and an advanced oxidation process (AOP)
- Purified Water Pump Station (PWPS), to be located on the WWTP site
- 6,100 linear feet (LF) of 12-inch conveyance pipeline from the PWPS to a well lateral split point, including CalTrans installation for the Linden Avenue overpass over US Highway 101
- 2,000 LF of 8-inch conveyance pipeline from the well lateral split point to individual injection wells
- Three 14-inch injection wells with backwash pumps and 42,000 gallon tanks
- Either 1,400 LF of 12-inch well backwash discharge piping to existing sanitary sewers, or 600 LF of 12-inch to existing storm drain culverts.
- Six monitoring wells
- Existing CVWD production wells
- Modifications to the CSD WWTP ocean outfall

Figure 1-1 shows a proposed conceptual layout of the key facilities.

Figure 1-1: Conceptual Layout of Proposed Facilities



1.2 Purpose and Use of this Document

The California Environmental Quality Act (CEQA) requires public agencies to analyze and consider the environmental consequences of their decision to approve projects over which they exercise discretion. The primary purpose of the Initial Study (IS) is to inform agencies of potentially significant environmental effects that may be associated with the Proposed Project. This document will be used by CVWD to determine the appropriate level of environmental assessment for the Proposed Project, such as a Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR). This IS provides a preliminary assessment of the potential impacts to environmental resources that would result from construction and operating the CAPP. The discussion and level of analysis are commensurate with the expected magnitude and severity of each impact, with the understanding that this is a preliminary assessment and more detailed analysis will be included in the subsequent environmental document to be prepared based on this IS.

1.3 Impact Terminology

For each resource area, an impact finding must be made under CEQA identifying the degree of impact construction and operation of the Proposed Project is likely to impose on each resource area. Potential impacts of the Proposed Project are classified as one of the following:

- "No Impact" – Project will not impact the resource area, generally applies when the impact statement in question does not apply to the project (e.g., mineral resources would not be impacted by a project if no mineral resources are known in the area).

- "Less than Significant" – Project may have some impact on a resource area, but would not substantially affect the resource, or impacts would be temporary in nature or of a small magnitude and the resource area would be relatively unaffected after the activity causing the impact ends.

- "Less than Significant with Mitigation" – Project may have a potentially significant impact on a resource area, but impacts can be mitigated to less than significant. Mitigation measures can be developed and included that clearly address the potential impact. Note that mitigation measure language is not included in the IS, as the project's full potential impacts will be addressed in the later MND or EIR.

- "Significant and Unavoidable" – Project has a significant impact on a resource area, but this impact cannot be mitigated to less than significant. While mitigation measures are required for any SU findings, a Statement of Overriding Considerations shall be issued by the Lead Agency acknowledging the SU finding and identifying why the project's impacts are considered acceptable. An SU finding does not preclude the project from moving forward.

2. PROJECT DESCRIPTION

2.1 Setting and Background

The CAPP has been proposed by CVWD to increase local water supply and reliability. The project includes installation or improvement of a wastewater treatment plant, conveyance, groundwater injection wells and backwash systems, groundwater monitoring wells, and ocean discharge infrastructure.

2.1.1 Location

The CAPP is located in the City of Carpinteria and unincorporated Santa Barbara County, California. Carpinteria is located approximately 12 miles south of the City of Santa Barbara, and approximately 80 miles north of the City of Los Angeles. As shown in **Figure 2-1**, the Proposed Project is primarily located within the City of Carpinteria's municipal boundaries, with the exception of one potential injection well site (Injection Well #6) and associated pipeline. The AWPF would be located at the existing WWTP site, 5351 6th Street, approximately 0.1 miles from the Pacific Ocean, and adjacent to Carpinteria Creek. The WWTP site is bounded by a railroad to the south, a live/work residential development to the west, the Carpinteria State Beach Park maintenance yard and employee housing to the north, and Carpinteria Creek to the east. South of the rail line is Carpinteria State Beach, which includes campgrounds, day use areas, and a playground immediately across the rail line from the site.

The injection well sites would be located approximately 0.8 to 1.0 miles north of the AWPF. Six potential injection well sites have been identified, though only three would be selected as design continues and property rights acquired. The land uses surrounding the proposed well sites are a mix of agricultural (greenhouse), residential, State park, and institutional. Conveyance pipelines between the AWPF and the injection wells would generally run within the public roadway rights-of-way. The pipeline would cross U.S. Highway 101 at the Linden Street Overpass. This crossing is currently being constructed by CalTrans during upgrades to the bridge, and has CEQA coverage under that EIR (Linden Avenue & Casitas Pass Road Interchanges Project, SCH# 2008041158) (CalTrans, 2010). There is also a potential aerial crossing of Franklin Creek if Injection Well #5 or #6 are selected for construction.

All facilities would be located within the City of Carpinteria with the exception of one potential well site (Injection Well #6) that would be located in the unincorporated area of Santa Barbara County.

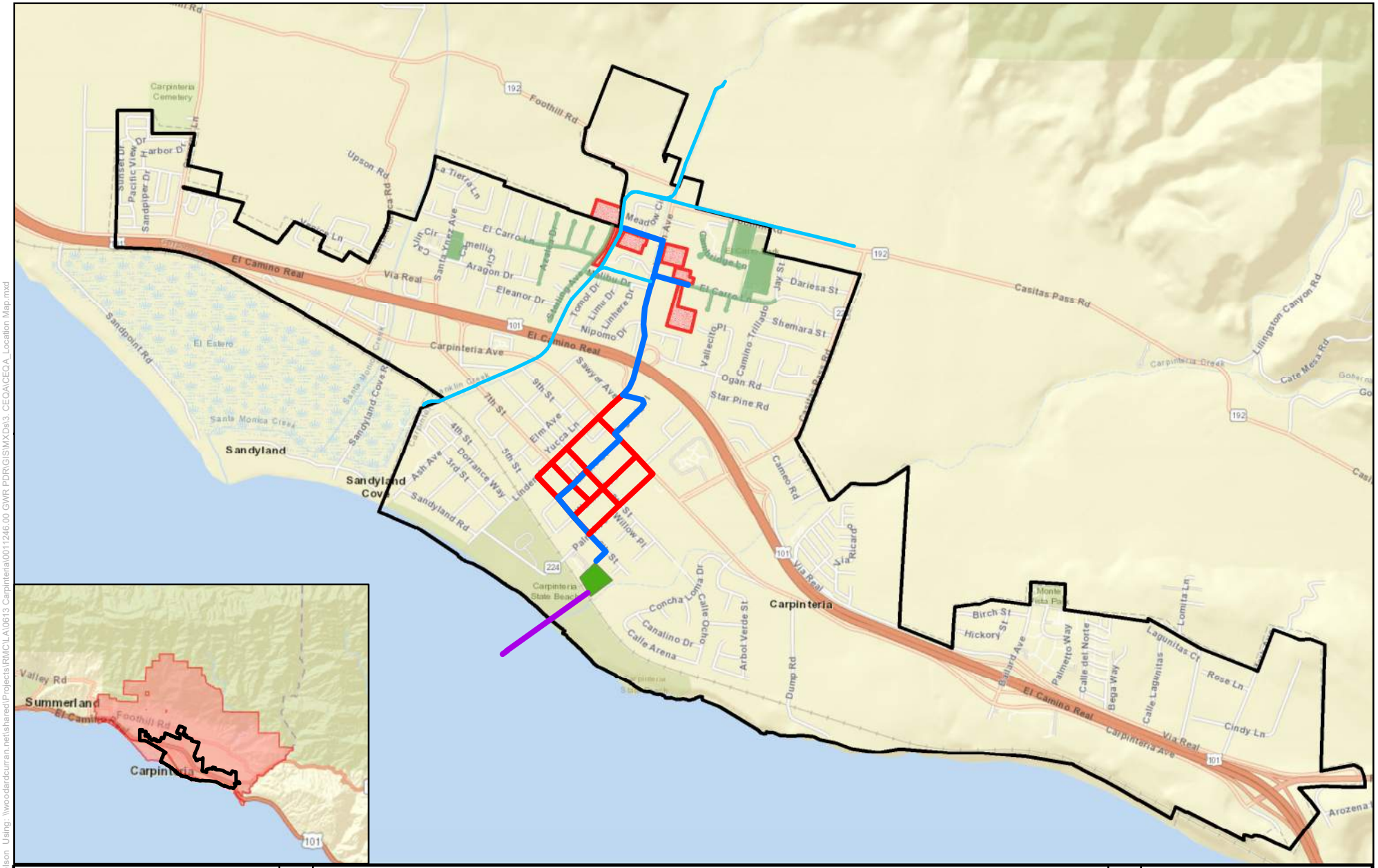


Figure 2-1: Project Location Map

Legend

- Primary Pipeline Alignment
- Southern Potential Pipeline Alignment
- Ocean Outfall
- Franklin Creek
- Potential Monitoring Well Areas
- Potential Injection Well Area
- Carpinteria Wastewater Treatment Plant
- Carpinteria City Boundary
- CVWD Service Area

0 0.1 0.2 0.4 Miles

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Project #: 0011246
Map Created: November 2018

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2.1.2 Existing Water System and Service Area

CVWD serves potable water to approximately 15,600 people, within a service area of 17.3 square miles. Population growth is projected to be relatively low, increasing to between 16,400 and 17,000 by 2040. CVWD has three primary sources of water supply – groundwater from the Carpinteria Groundwater Basin, surface water collected and stored in Lake Cachuma (Cachuma Project water), and SWP supplies also stored in Lake Cachuma. **Table 2-1** shows the breakdown of supplies from each of these sources.

Table 2-1: Average Water Supplies by Source

Water Supply	Long-Term Average Volume, without Project (AFY)	Maximum Volume, without Project (AFY)*
Groundwater	1,000	3,000
Cachuma Project	1,970	2,813
SWP	1,250	2,200

Source: CVWD *2015 Urban Water Management Plan* (September 2016)
* These maximum volumes are not considered sustainable or reliable.

CVWD's existing water system includes five wells, with a total capacity of 3.98 million gallons per day (MGD). Two of these wells were constructed in recent years and retain the ability to both extract and inject surplus Cachuma Project or SWP water. CVWD also owns three reservoirs with a combined storage capacity of 10.68 acre-feet (AF). Total water use in 2015 was 4,143 acre-feet per year (AFY). Given the relatively slow population growth projected for CVWD's service area, total water demands are projected to increase to 4,205 AFY by 2040, an increase of only 62 AFY over 2015.

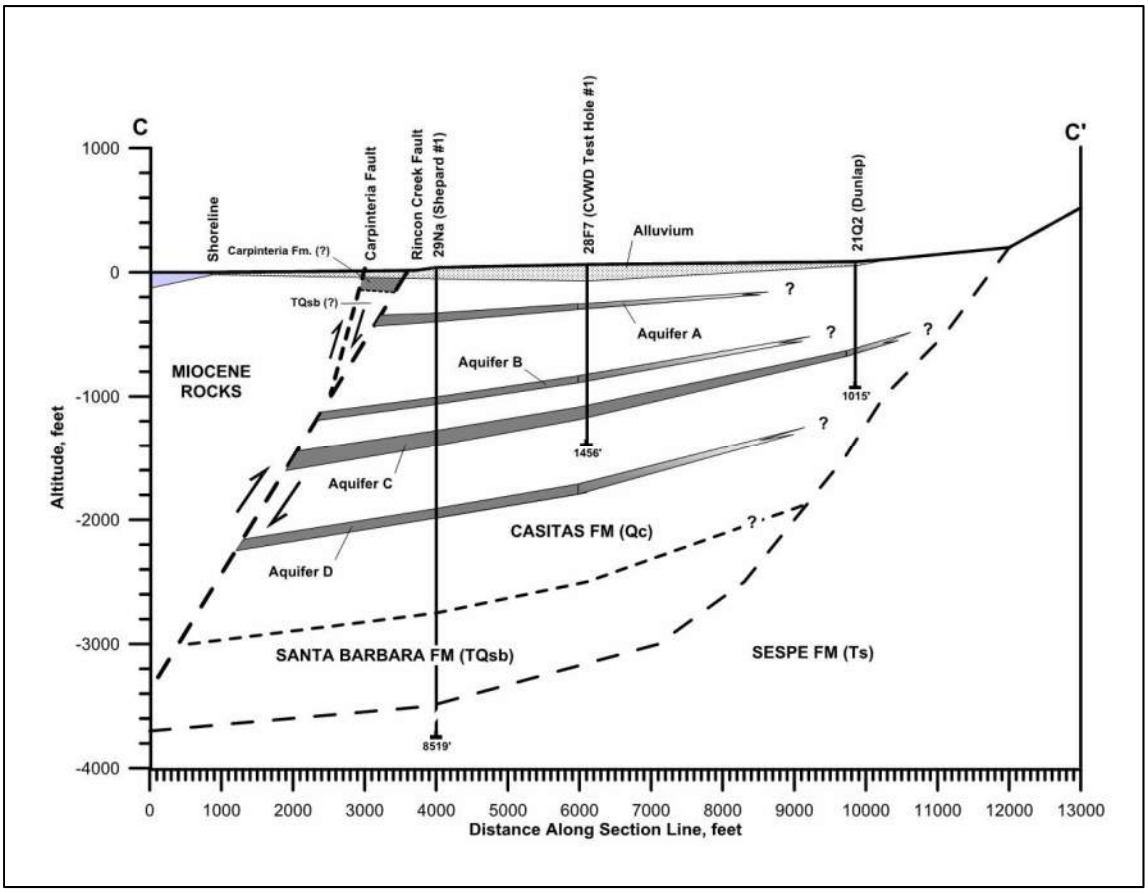
2.1.3 Carpinteria Groundwater Basin

The Carpinteria Groundwater Basin is located to the south of the Santa Ynez Mountains and is approximately 16.6 square miles, with a total storage of 700,000 AF. CVWD's *2012 Groundwater Model Report* found that the sustainable yield ranged from 3,600 to 4,000 AFY, with an average of 3,800 AFY (CVWD, 2012). There are both private wells and agency wells drawing from the basin and the basin is not adjudicated. Groundwater levels were generally stable between 1985 and 2008, with larger declines in drought years and recovery during the wettest years (CVWD, 2012).

The basin is subdivided into Storage Unit No. 1 (SU1) and Storage Unit No. 2 (SU2), separated by the Rincon Creek Thrust fault. The Proposed Project would be located in SU1, north and west of the fault line. SU1 contains both a confined area and an unconfined recharge area. The confined area is primarily overlain by the City of Carpinteria, while the unconfined recharge area is dominated by agricultural land uses and is generally less developed. SU1 is further divided into four vertically differentiated aquifers within the confined area, Aquifers A, B, C, and D, each of which is located further below ground surface than the one above. Each aquifer is approximately 50 to 100 feet thick (CVWD, 2012). The Proposed Project would overlie these aquifers, and have the ability to inject purified water into Aquifers A, B, and C. There are no known wells accessing Aquifer D and groundwater is not known to be pumped from the aquifer.

The basin was preliminarily designated a high priority basin by the California Department of Water Resources (DWR) under the Sustainable Groundwater Management Act (SGMA) and California Statewide Groundwater Elevation Monitoring (CASGEM) program in 2018. Because it has been designated as a high priority basin, a Groundwater Sustainability Agency (GSA) must be formed and a Groundwater Sustainability Plan (GSP) developed. The GSP will establish sustainable use goals for the basin, and all groundwater projects must be consistent with the GSP.

Figure 2-2: Carpinteria Groundwater Basin Cross-Section



Source: *Carpinteria Groundwater Basin Hydrogeologic Update and Groundwater Model Report* (June 2012)

2.2 Purpose and Need for Project

The CAPP would address a critical water supply need in the Carpinteria Valley. The Carpinteria Valley has been in moderate to exceptional drought since Summer 2013 (U.S. Drought Monitor, 2018). The region has limited water supply options, and relies on groundwater, surface water collected at Lake Cachuma in the Santa Ynez watershed, and imported water from the SWP, delivered via Lake Cachuma. During drought, surface water and imported water supplies are limited, and groundwater pumping increases.

Since the completion of the *2015 Urban Water Management Plan* (UWMP) (CVWD, 2016a) and the *2016 Recycled Water Facilities Plan* (CVWD, 2016b), CVWD has continued to analyze the Proposed Project and identify new water supply vulnerabilities throughout the recent critical drought. Capacity limitations of the SWP conveyance system, increasing costs to sustain reliability, new groundwater regulations, competition for Lake Cachuma storage, and vulnerability of Cachuma Project conveyance systems are a few emerging issues facing the area's imported water systems.

In 2020, the Cachuma Project contracts will expire and new terms for water supply will be redefined, including annual project yield. It is expected that, at a minimum, a reduction of annually sustainable yield will occur as well as a new operating guideline to sustain the reservoir over the next drought. The probable range of the sustainable yield reduction is between 10% and 50%. Assuming a 30% reduction would reduce CVWD's project yield from 2,813 AFY to 1,970

AFY. However, deliveries during the most recent drought from 2012 to 2016 ranged from 0% to 100% with a 5-year average of 45% (or 1,266 AFY). Assuming 45% deliveries in combination with a 30% sustainable project yield reduction results a drought period yield of 887 AFY.

CVWD's share of the pipe capacity and allocated SWP water is 2,000 AFY, with a drought buffer of 200 AFY – for a total of 2,200 AFY. However, SWP delivery varies from year to year depending on Sierra snowpack, available conveyance through the Sacramento- San Joaquin Delta, operational capacity, and water in storage at Lake Oroville. As a result, the annual yield of the project, sometimes referred to as the "annual delivery", has been determined by DWR to be on average 59%. In other words, over time, CVWD should expect to have available SWP water of about 1,298 AFY. CVWD projects an average annual SWP yield of 50% to 60% that results in a range 1,100 and 1,320 AFY. However, a look at the delivery percentage during a drought highlights the variability of SWP water supplies. SWP deliveries during the most recent statewide drought from 2012 to 2016 ranged from 5% to 65% with a 5-year average of 37% (or 740 AFY). It is expected that this variability will continue into the future.

In 2014, the passage of SGMA changed the way groundwater is managed in California. The primary elements of SGMA are the formation of a local GSA and the development of a GSP to show the State how the basin will be sustainably managed. The effect of SGMA will be a negotiated management plan providing a strategy to deal with over-extraction, should it occur, and mitigation of the associated negative effects of over-extraction. The Carpinteria Groundwater Basin has been preliminarily designated as a high priority basin under SGMA. Prioritization considers population dependent on the groundwater basin, the number of wells drawing from the basin, irrigated acreage overlying the basin, documented impacts to the basin, and other adverse impacts to the region or local habitat. A high priority basin designation is generally an indication that the basin is important to the region's water supply and that it faces risks to its overall health. In Carpinteria's case, this will likely require that each user in the basin, including CVWD, be allotted a percentage of available annual yield. As conditions such as climate, beneficial use, land use and basin knowledge change, it is likely that all users of the basin will see reductions in the available yield. To be conservative, CVWD is using a 1,000 AFY planning number for long term available groundwater supply compared with 1,400 AFY of historical pumping.

The water supply projections from the 2015 UWMP (refer to Table 2-1) were adjusted in **Table 2-2** to reflect these new water supply vulnerabilities, ranging from the minimum expected supply or "worst case" scenario, to the maximum expected supply under these conditions. The projected supply for both conditions is not sufficient to meet CVWD's projected demands through 2040, as shown by the negative differences symbolized in red. These vulnerabilities and coming changes to Cachuma Project and other water supplies have confirmed the need for a local, reliable, and drought-resistant recycled water project.

Table 2-2: Projected Supply and Demand Adjusted for Recent Supply Vulnerabilities (AFY)

Item	2020	2025	2030	2035	2040
Cachuma Project[1]	890 - 1,970				
State Water Project[2]	740 - 1,320				
Groundwater	1,000 - 1,400				
Total Supply	**2,630 - 4,690**				
Total Demand	**4,148**	**4,163**	**4,177**	**4,192**	**4,205**
Supply vs. Demand Balance	**1,518 Shortfall to 542 Surplus**	**1,533 Shortfall to 527 Surplus**	**1,552 Shortfall to 513 Surplus**	**1,567 Shortfall to 498 Surplus**	**1,581 Shortfall to 485 Surplus**

Notes:

1. Assumes sustainable Cachuma Project yield reduced by 30% to 1,970 AFY. Low end of range assumes applies the recent 5-year drought period yield of 45% to this value.
2. Low end applies the recent 5-year drought period yield of 37% and high end assumes 60% average SWP allocation.

The Proposed Project would beneficially reuse wastewater, currently discharged to the ocean after treatment, for groundwater recharge and potable reuse, protecting groundwater levels, improving groundwater quality, and providing a drought-proof, reliable, local supply that would be fully under the control of CVWD. The use of advanced water treatment would result in injection of high-quality water to the groundwater basin resulting in a lower Total Dissolved Solids (TDS) concentration in the basin. This is considered a benefit to the basin water quality.

2.3 Project Objectives

The Proposed Project would achieve the following objectives:

1. Create a new, drought-proof, reliable supply of local water.
2. Produce approximately 1,100 AFY advanced treated water suitable for groundwater recharge and potable reuse (at 1.0 MGD capacity), with the ability to expand to up to 1,650 AFY (at 1.5 MGD capacity).
3. Reduce CVWD's reliance on imported water and storage at Lake Cachuma.

2.4 Proposed Project

The Proposed Project includes construction of an AWPF, injection wells, conveyance pipelines, backwash pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. Existing production wells would be used to extract the purified water back out of the groundwater basin for use in the potable supply. Detailed description of each project component is provided below.

2.4.1 Advanced Water Purification Facility (AWPF)

The AWPF is proposed to be constructed at the CSD WWTP with an initial production capacity of 1.0 MGD and ultimate production capacity of 1.5 MGD. This description is for the ultimate capacity. **Figure 2-3** shows the proposed CSD WWTP site plan with AWPF components. The AWPF would be constructed east of the disinfection basins and west of the Storage Building and Maintenance Building, within an existing paved area (and former primary clarifier, demolished during the Water Recycling Facility Upgrade Project in 1994). The total AWPF footprint would be approximately 10,900 square feet. An existing storage building in the east portion of the property may be demolished concurrently with the Proposed Project.

Secondary effluent from the CSD WWTP would be used to feed the AWPF process. The AWPF would consist of microfiltration (MF) or ultrafiltration (UF), reverse osmosis (RO), advanced oxidation processes (AOP), with ultraviolet (UV) and free chlorine. An equalization basin would be constructed to provide a consistent flow of secondary effluent to the AWPF. **Figure 2-4** shows the process flow diagram for the AWPF.

MF and UF systems are similar treatment technologies constructed out of the same materials and contain nearly identical components. The primary difference is the pore size of the membranes, with MF membranes ranging from 0.1µm - 10µm and UF membranes ranging from 0.01µm - 0.1µm. The intended function of the MF or UF is to remove suspended solids and colloidal particulates from the feed water upstream of the RO process. MF or UF system can effectively remove inert particulates, organic particulates, colloidal particulates, pathogenic organisms, bacteria, and other particles by the size-exclusion sieve action of the membranes. The primary components of the MF or UF system include skid-mounted pre-treatment strainers with 200 - 500µm screen pore size, booster feed pump, membrane modules, backwash booster pump, along with non-skid mounted compressed air system and a clean-in-place (CIP) system. The chemicals commonly used during cleaning activities include citric acid, sodium hydroxide, sodium hypochlorite, and sodium bisulfite. The MF/UF system would include four skids operating in parallel in a 4-duty and 0-standby configuration to meet the ultimate production capacity of 1.5 MGD. The filtrate would be stored in a circular above-ground interprocess storage tank to provide source water for the MF/UF backwash cycles and feed water for the RO system.

The RO process utilizes semi-permeable membranes to remove a wide array of dissolved constituents and reduce the total dissolved solids (TDS) in the process water. The primary components of the RO system include skid-mounted RO high-pressure feed pumps and membrane elements housed in cylindrical vessels, along with non-skid mounted pretreatment cartridge filters and a CIP system. The chemicals commonly used during cleaning activities include low pH and high pH cleaners, sulfuric acid, and sodium hydroxide. Antiscalant is also injected to the RO feed water. The RO system would include four skids operating in parallel in a 4-duty and 0-standby configuration to meet the ultimate capacity of 1.5 MGD. The brine concentration would be discharged to the existing WWTP outfall.

An AOP utilizing UV and free chlorine would be the final treatment operation for the AWPF and provides the primary barrier against pathogenic organisms. In the AOP system, the process water is initially dosed with sodium hypochlorite as the free chlorine source and mixed by a static mixer. The water then enters UV reactors, which house multiple UV lamps that the process water flows past for irradiation by UV light. The UV system would include three skids operating in parallel in a 2-duty and 1-standby configuration to meet the ultimate production capacity of 1.5 MGD. Following AOP, the process water is stabilized with the addition of sodium hydroxide and calcium chloride to reduce corrosion potential of the water in the conveyance system and injection wells.

A backwash line would also be constructed along the existing north utility corridor and main utility corridor to the WWTP influent pump station for MF/UF backwash, membrane cleaning waste flows, and off-spec water (water that does not meet the permit requirements [non-compliant water]). The approximate location of the existing north utility corridor and main utility corridor is shown on Figure 2-3. Stormwater would be fully contained within the AWPF and WWTP site, and diverted to the WWTP for treatment. There would be no stormwater runoff from the Proposed Project.

The Proposed Project may also use stormwater or brackish groundwater as source water for the AWPF by conveying the water to the WWTP through existing or new infrastructure. The facilities needed to incorporate these potential AWPF sources have not been developed and are not a component of this Proposed Project. They are therefore not included in this Initial Study.

Figure 2-3: Proposed Project Site Plan at CSD WWTP

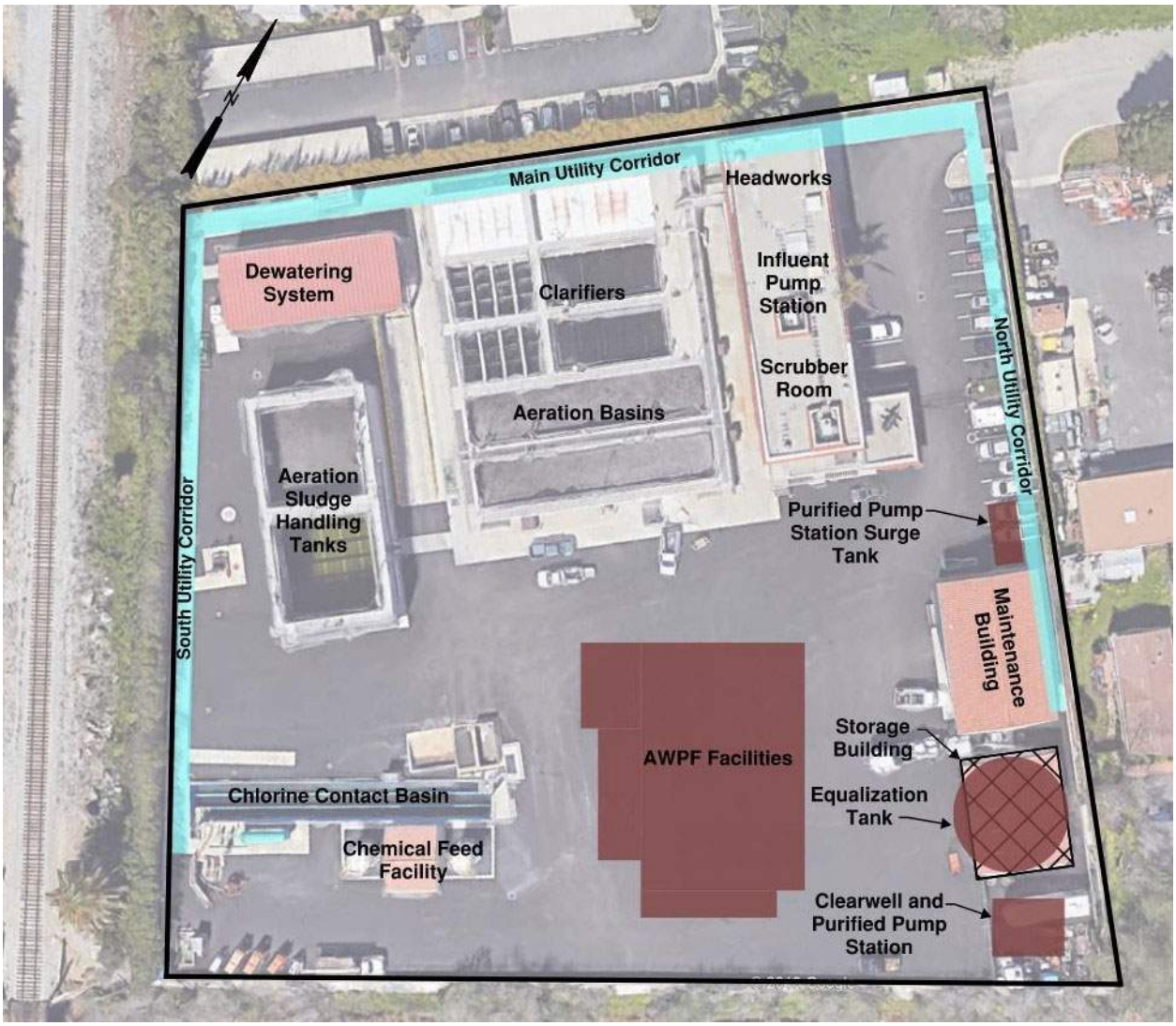
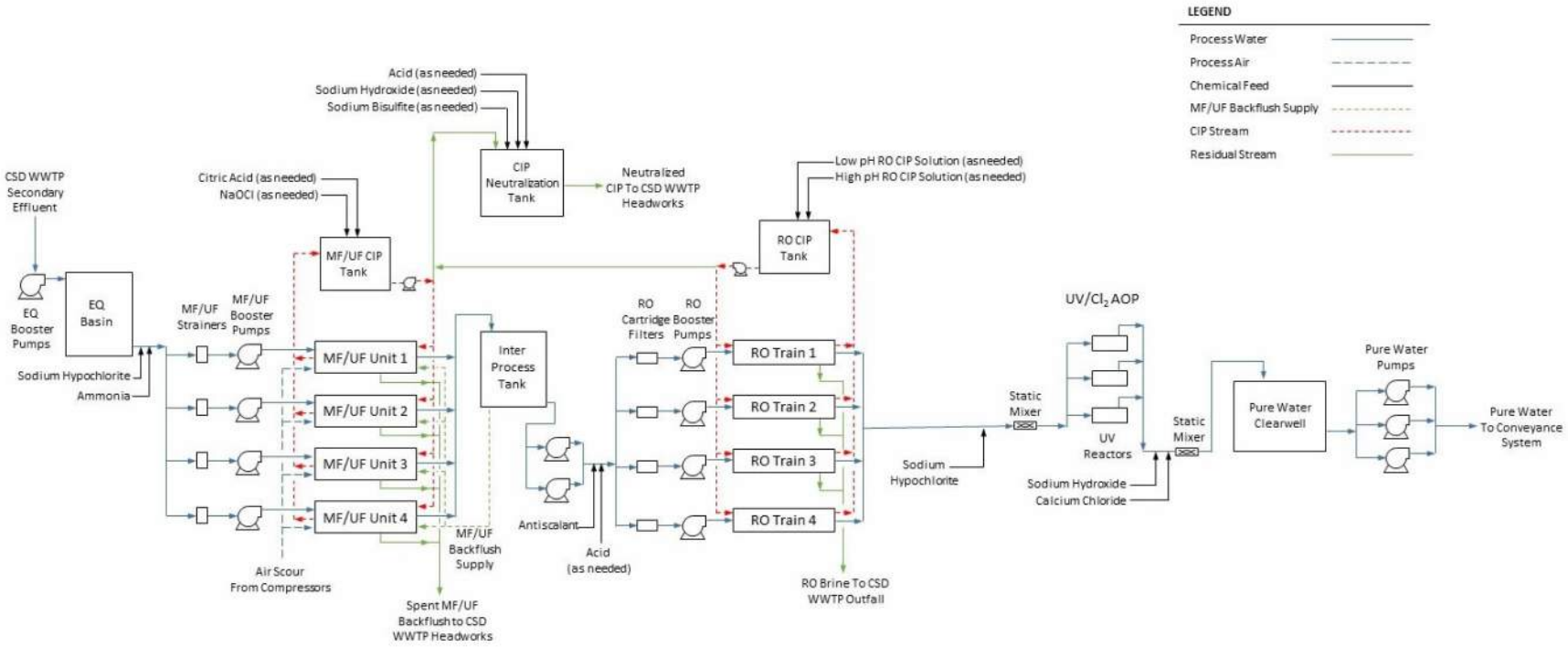


Figure 2-4: AWPF Process Flow Diagram



2.4.2 Purified Water Pump Station

AWPF product water would be stored in a purified water clearwell adjacent to the Purified Water Pump Station (PWPS) (20-feet by 26-feet); located near to the AWPF. The footprint of the purified water pump station including associated above grade piping, surge tank, and miscellaneous equipment would be 2,000 square feet (33-feet by 60-feet).

The PWPS would entail a concrete pad and roof decking over a below grade concrete clearwell. The PWPS would not be housed inside a building and will be uncovered. The below grade concrete clearwell would be used to temporarily store purified water before being pumped to the injection wells. The clearwell would require excavation of approximately 345 cubic yards of soil to a depth of 14-feet below ground surface. The plank grating over the clearwell would have four vertical turbine pumps and their associated motors (40 hp) mounted to the surface, and the pump shafts would extend into the clearwell below. The 12-inch discharge piping from the pumps would be manifolded together into one common pipe before leaving the site. Miscellaneous electrical cabinets may be mounted on the concrete pad for electrical service to the purified water pump station. Additionally, a surge tank would be piped to the discharge lines to prevent damage to equipment from water hammer.

2.4.3 Conveyance Pipelines to Injection Wells

The PWPS and piping conveyance system would be constructed to serve up to three injection wells. A majority of the pipeline alignments are proposed to be constructed via open cut trench within roadway rights-of-way (ROWs), however in some cases may be constructed via trenchless technologies. Approximately 6,100 LF of 12-inch diameter common pipeline would convey the purified water to the well lateral split. Three 8-inch diameter pipeline extensions, totaling approximately 2,000 LF, would be used to distribute the water to individual injection wells.

The only segment proposed for construction that may not open cut trench or use trenchless construction is the segment to serve the injection well at Franklin Park, which must cross Franklin Creek, if the Injection Well #5 or #6 are selected. If open cut trenching is not selected for the Franklin Creek crossing, a pipe bridge would be used, similar to an existing pipe bridge over Franklin Creek. The existing pipe bridge spans the creek, adjacent to a pedestrian bridge between Meadow View Lane and Sterling Avenue. The 8-inch pipe would span the creek and support itself; no external pipe supports of permanent loading of the pedestrian bridge would be required. The pipe span across Franklin Creek would be approximately 25 feet. Because Franklin Creek is concrete lined, it is not anticipated that a pipe bridge would be required.

Table 2-3 provides a summary of the proposed street alignments and construction methods for each pipe segment. There may be a need to use a trenchless technology for some portions of some segments. While these segments are not yet determined, potential impacts of trenchless technology is considered in the environmental analysis in Section 3. **Figure 1-1** provides images of several of the conveyance pipeline locations.

Table 2-3: Conveyance Pipelines – Preferred Alignment

Street (a)	Length (LF)	Dia. (in)	Proposed Construction Method
Olive Ave	220	12	Open cut trench, paved City street
6th St	1,100	12	Open cut trench, paved City street
Maple Ave	1,300	12	Open cut trench, paved City street
Carpinteria Ave	120	12	Open cut trench, paved City street
Eugenia Pl	680	12	Open cut trench, paved City street
Easement between Eugenia Pl and Linden Ave	340	12	Open cut trench, paved City street
Linden Ave (b)	2,340	12	Open cut trench, paved City street
Linden Ave	125	8	Open cut trench, paved City street
Meadow View Ln	720	8	Open cut trench, paved City street
El Carro Ln	535	8	Open cut trench, paved City street

Notes:

(a) Alternative alignments between Palm Ave and Linden Ave, or 6th Street and Carpinteria Ave could be selected for the final alignment of the 12-in pipeline. However, choosing one of these alternative alignments would not change the total length of the 12-in pipeline. The segments would be constructed via open cut trench in paved City streets.

(b) Approximately 1,250 LF of the 2,340 LF 12-inch pipeline installed on Linden Ave would be installed by CalTrans as part of the US 101-Linden Avenue Overcrossing project.

(c) Some portions of some segments may utilize trenchless technology.

2.4.4 Injection Wells

As shown on **Figure 1-1**, injection wells are proposed at six potential sites located north of Highway 101 (Well Sites #1, #2, #3, #4, #5, and #6). In total, three injection wells are planned for construction. Two will be constructed in the first phase of the project for the 1.0 MGD AWPF, with one well on either side of Linden Avenue to provide sufficient separation to avoid injection operations interference in the groundwater basin. A third injection well would be constructed when the AWPF is expanded to its ultimate capacity of 1.5 MGD. The injection wells are anticipated to be constructed utilizing below-grade vaults or above-grade with the well head facilities placed in screened cages or behind fences. Injection wells would be single-completion wells having one borehole with casing and screening in the A, B, and C aquifers. The wellheads would include injection supply lines, flow meters, air release valves, pressure-regulating valves, and controls for down-hole flow control valves. An electric/pneumatic control panel would be installed next to the wellhead and piping. Each well, including backwash water holding tank, is anticipated to have a footprint of 6,000 square feet (60-feet by 100-feet). During construction, the impacted area would be approximately 10,000 square-feet to accommodate the drill rig, laydown, support equipment, and groundwater treatment tanks. The locations of the selected well, backwash water holding tank, and associated equipment have not been selected within the available sites, therefore the actual impacted area would be smaller than the areas shown on **Figure 1-1**. **Figures 2-5** and **2-6** show example well sites with below or above ground facilities, respectively. **Figure 2-7** is an example well site with a backwash tank co-located on the site.

Well backwash would be required to keep the well operating at peak performance and is part of normal maintenance. A 42,000-gallon tank would be required to temporarily store water produced during well backwash events. The stored backwash water would be discharged either into the sewer system or storm drain system via a nearby connection. In the case of the sewer system, the backwash water would be slowly discharged into the sewer system at a low flow rate to prevent surcharging the sewer collection system. In the case of the storm drain system, the water would be slowly discharged into the storm drain system after allowing any solids accumulated during backwash to be settled out in the backwash holding tank.

Figure 2-5: Underground Well Vault Example

Figure 2-6: Aboveground Well Example

Figure 2-7: Example Well with Backwash Storage Tank

2.4.5 Well Backwash Discharge Pipelines

A dedicated backwashing pump at each well site would be used for regular cleaning of the well screens. Backwash water would either be disposed of to the CSD's sewer system or to the local storm drainage system. **Figure 2-8** shows the sewer pipelines and storm drains relative to potential injection well sites. As shown in the figure, discharge locations are located adjacent to the potential injection well parcels except for Well #4, which would require a pipeline to Linden Avenue or to Franklin Creek.

Sewer disposal includes construction of up to 1,400 LF of new 12-inch pipe for connection to the existing sanitary sewer; all sewer flows return to the CSD WWTP. Drainage disposal includes construction of 600 LF of new 12-inch pipe for direct drainage to Franklin Creek or to existing drainage culverts owned by the City; all drainage flows to Franklin Creek. Drainage backwash piping is proposed to be constructed via open cut trench within roadway ROWs.

Figure 2-8: Potential Backwash Discharge Locations

Third Party GIS Disclaimer. This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. **Data Sources:**

2.4.6 Monitoring Wells

Figure 2-9 shows an example monitoring well surface completion. Four monitoring well locations are proposed between the injection wells and the CVWD potable water wells at the approximate locations shown in **Figure 2-10**. The locations selected for monitoring wells would be dependent on the injection well locations selected. The monitoring wells would include either three nested PVC casings completed in the A, B, and C aquifers or three individual monitoring wells on each site. For the nested monitoring well, three, 3-inch diameter casings in each monitoring well would be nested in a 24-inch borehole and equipped with a sampling pump. For individual monitoring wells, 3-inch casings would be installed for each aquifer at different depths. During construction, the impacted area would be approximately 5,000 square-feet to accommodate the drill rig, laydown, support equipment, and groundwater treatment tanks. Once installed, above-ground facilities would include a small circular vault lid (up to 3 feet in diameter) enclosing a below-ground vault containing the nested well or three monitoring wells at different depths. During periodic sampling, temporary piping or hosing to a gutter or storm drain inlet would be required for discharge.

Figure 2-9: Example of Monitoring Wells

2.4.7 Ocean Outfall Modifications

The CSD WWTP currently discharges effluent through a single 24-inch diameter concrete coated, welded steel outfall at a depth of 21 to 24 feet below mean sea level. The alignment of the outfall is shown in **Figure 2-11**. The outfall is approximately 1,600 feet long with the last 93 feet having 16 diffuser ports spaced evenly every 6 feet on the main barrel of the outfall and one diffuser port on the flanged end of the pipeline. The diffusers consist of a 4-inch diameter pipe riser with a 90-degree elbow on the end. The discharge direction of the diffusers alternates along the pipeline and has a downward discharge trajectory of 30-degree from horizontal. With the Proposed Project, the amount of effluent conveyed by the outfall would be reduced during periods of high demand. The reduced flow means the furthest diffusers would not have any discharge through them which would allow seawater, sediment, and marine life to enter the outfall. To prevent the fouling of the interior of the outfall, duckbill valves would be installed on each diffuser. An example of the valve is shown in **Figure 2-12**. The valves remain closed when there is little to no flow on the inside of the valve, but open once the flow increases. The diffuser port on the pipe end would either remain open or have a duckbill valve installed depending on the amount of effluent discharge during periods of high demand.

Figure 2-10: Monitoring Well Locations

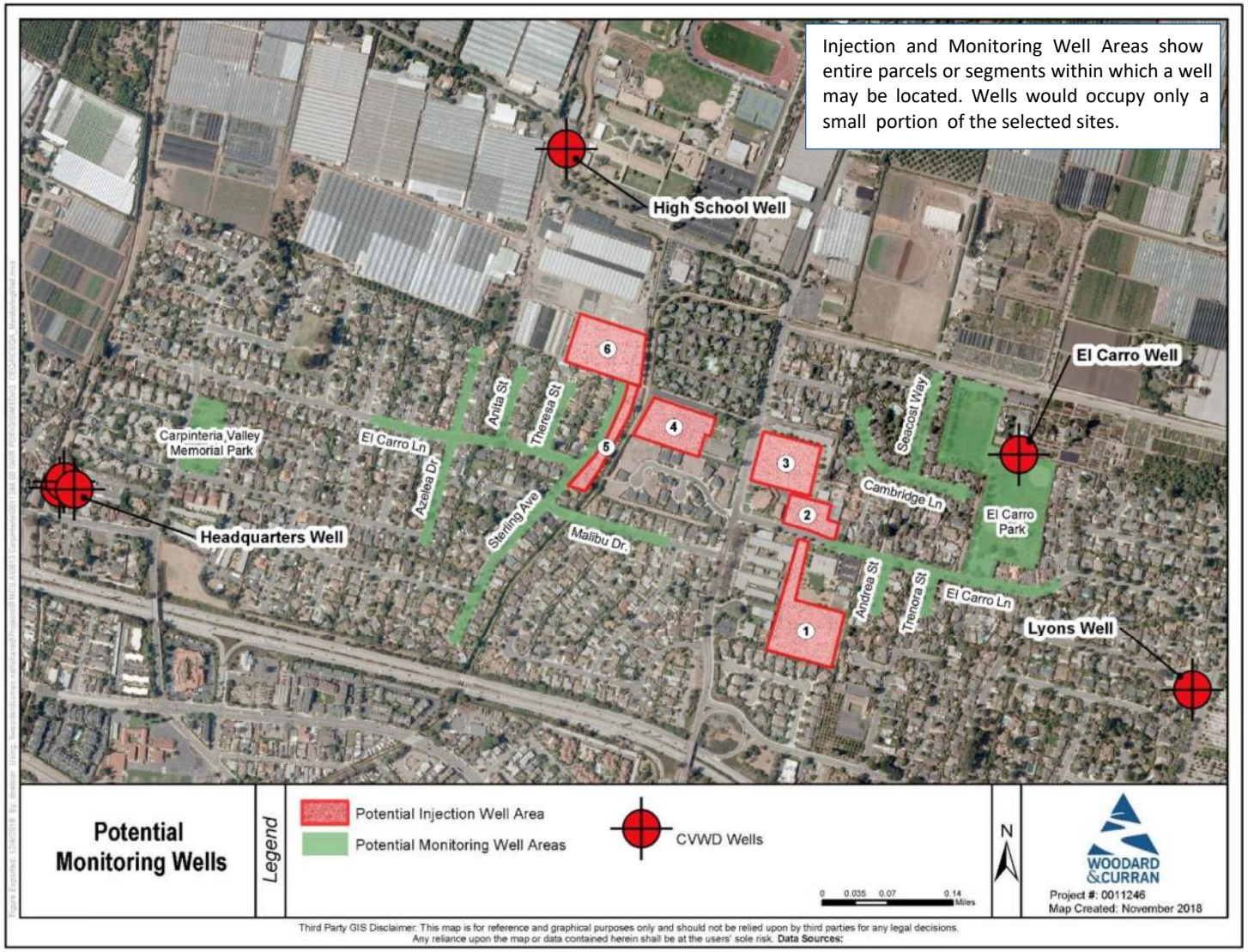


Figure 2-11: Ocean Outfall

Figure 2-5: Examples of Duckbill Valves to be Use on Ocean Outfall

Source: Tideflex Technologies, https://www.redvalve.com/tideflex/tideflex-products/tideflex-effluent-diffuser-systems

2.5 Construction Methods

2.5.1 AWPF & Pump Station

Construction of the AWPF would include, but not be limited to: civil site work and grading, deep foundation system, concrete pad construction, structural concrete work, paving, metal walkway and railing construction, seismic anchors, yard piping, building construction, HVAC construction, electrical, instrumentation, controls, SCADA systems, and equipment installation. The overall general area disturbed during construction would be approximately 16,000 square-feet for construction of the AWPF, purified water storage tank / clear well, and purified water pump station. All construction work for the AWPF would be onsite at CSD WWTP. It would also include demolition of an existing storage building with a footprint of approximately 1,800 square feet.

First, pavement would be removed from the facilities footprint, which is roughly 16,000 square-feet, to establish a preliminary grade for the concrete pads for the AWPF building, interprocess tank and pumping area, chemical storage area, WWTP secondary effluent equalization tank, recycled water storage / clear well (belowground), and PWPS. Below-ground facilities would be approximately 15 feet deep. Excavation up to 20 feet in depth would be required to remove an existing buried and abandoned circular primary clarifier (roughly 72 feet outside diameter), partially located underneath the proposed AWPF. After the portion of the abandoned clarifier that is located underneath the proposed AWPF has been removed, the deep foundation system would be constructed to mitigate the unstable subsurface soil underneath the proposed AWPF. The deep foundation system would be piles, which may be drilled or installed using pile-driving. A driven pile foundation system would involve using an impact hammer to drive precast elements to a certain design depth. Common precast elements are constructed out of concrete, timber, or steel. A drilled pile foundation system would involve drilling a cylindrical borehole into the ground to a certain design depth, then typically lowering reinforcement into the borehole and filling the shift with concrete to form the pile. Driven pile systems produce higher noise levels during construction than drilled piles and will be a factor in deciding which deep foundation system will be installed. Typical noise levels produced during installation of driven piles are between 95dBA and 101 dBA at 50 feet.

The 370,000-gallon secondary effluent equalization tank is anticipated to be located aboveground where the existing storage building that will be demolished currently stands. The tank will be a cylindrical steel tank with a footprint of approximately 1,900 square-feet and a height of approximately 30 feet. The 38,000-gallon interprocess storage tank, which would also be aboveground, would be a cylindrical steel tank with a footprint of approximately 290 square feet and a height of approximately 23 feet.

Following rough grading and excavation underneath the proposed AWPF as stated above, additional excavation would bring the site to final grade and allow for preparation for underground piping and structural slabs. Additional site work would include paving, temporary and permanent security fencing, site lighting, installation of additional access roads and staging areas to accommodate construction, operation, and maintenance. Sometimes, excavations could require dewatering of shallow groundwater and development of surface and/or subsurface drainage systems.

Prior to pouring concrete, structural forms, rebar, and conduits would be installed for the facility. After the concrete is poured, it would be finished and cured before the forms are removed. For the pump station and purified water clear well, after the concrete footing, slab, and walls are poured, the overhead structural steel and roof decking would be erected or elevated concrete slab roof would be poured. All areas with pavement removed and without structures would be re-paved to original condition.

After the structure is erected or retrofitted, electrical equipment (e.g., machinery control consoles, switchboards, and lighting) would be installed. Site work such as installing pull boxes, conduits, and cables would continue. After roofs on the buildings and facilities are completed, flow meters, level probes, pressure instruments, process analyzers, and

other instrumentation would be installed. Additionally, water quality adjustment, sampling, and monitoring equipment would be installed.

CVWD and CSD personnel (i.e., engineers, inspectors, operators, maintenance crews, and instrumentation specialists) and the contractor would work with the equipment vendors to understand how each piece of equipment would operate and function. Under CVWD and CSD supervision, the construction contractor would start up and test the equipment on site to guarantee that pumps, motors, valves, monitoring and communication equipment are functional and meet design standards.

2.5.2 Pipelines

The pipelines are proposed to be constructed primarily using open cut trenching. A pipe bridge to cross Franklin Creek may be needed if injection Well Sites #5 or #6 are selected. Construction methods would include, but not be limited to, those described below. This analysis assumes an average of 150 LF of pipe constructed per day.

2.5.2.1 Open Cut Trench

For installation of a majority of the pipelines, open cut trench construction would be used within existing roadway ROWs. A backhoe or excavator would be used to dig trenches for pipe and conduit installation. In general, trenches would have vertical side walls to minimize the amount of soil excavated. Soils excavated from the trenches, if of suitable quality, would be stockpiled alongside the trench or in staging areas for later reuse in backfilling the trench. If not reusable, the soil would be hauled off site for disposal. Disposal options include use as cover material at sanitary landfills and use as "clean fill" at other sites. In general, pipe trenches would be 3- to 4-feet wide, and 3- to 6-feet deep with largest pipe size being 12-inches in diameter.

Pipeline trenches, in any given location, would be open for two to three days on average. During construction, vertical wall trenches would be temporarily "closed" at the end of each work day, by covering with steel plates or backfilled. Trenches would be backfilled with either reused excavated soil or imported material. Dump trucks would be used to deliver imported, engineered backfill material to stockpiles near the trenching. Native soil would be reused for backfill to the greatest extent possible; however, the soil may not be suitable, in which case imported material would be used. During the installation of the pipe, there would be a surplus of native soil requiring off-site export.

After the pipe is installed, the ground surface would be restored. When the pipe is installed in a paved roadway, the pavement would be restored with new asphalt or concrete to match the surrounding road type. For asphalt repaving, a temporary asphalt material may be installed to allow traffic to use the roadway immediately after pipeline construction. A repaving crew would follow the pipe installation crew and prepare the road surface for repaving. Final repaving would be done after pipeline installation and testing is completed for a whole street width, lane width, or trench width.

2.5.2.2 Trenchless Pipeline Construction

In certain conditions it may be more desirable to install sections of pipeline using horizontal directional drilling (HDD) or jack-and-bore technology. These areas may include those that have large trees that cannot be removed, areas where it is not practical to access with necessary equipment to trench and lay pipe, and areas where paving cannot be damaged.

Horizontal Directional Drilling

HDD installs pipeline between an entry (launch) pit and exit (receiving) pit without the need for open-cut trench. HDD involves the use of a drill rig tilted at the top at an angle, typically in the range of 10 to 15 degrees from horizontal, placed at the entry pit. The entry and exit pits are typically approximately 50 to 100 feet square by approximately 5 feet deep, each.

A small diameter (4 to 8 inch diameter) pilot hole is drilled along a pre-determined horizontal and vertical alignment from the entry pit to the exit pit, guided using electromagnetic readings. Excavation takes place by introducing pressurized slurry (a thin mixture of water and clay) through a drill string to the bit. The slurry pressure in combination with a rotating drill bit excavates the material, which is then transported back to the entry pit along the outside of the drill string. In some cases, a larger diameter wash pipe may be rotated around the drill string to prevent sticking of the steerable string. The mixture of slurry and spoil that is collected in the entry pit is pumped to a slurry separation plant to separate the spoil from the fluid so that the fluid can be reused. The hole is then enlarged by pulling larger reamers from the exit pit back towards the drilling rig. The pipeline is then pulled into place behind the last reamer.

The entry side requires a work area of approximately 1,500 to 3,000 square feet for the drill rig, slurry separation plant, material storage and other support equipment. The exit side requires a work area of about 1,000 to 1,500 square feet for the pullback. In addition, a corridor about 15 feet wide by the length of the pipe is generally needed for the buildup and laydown of the pipe.

Pipes would be installed at varying depths depending on features being avoided, the existing underlying utilities, soil types, environmental constraints, entry and exit constraints, and bend radius of the installed product and drill pipe. The exact depths of the pits and drilling will be defined if HDD is selected and design begun.

Jack and Bore

Jack and bore is a trenchless method that is often used for crossings that are generally less than 300 feet long and above the ground water level. As with HDD, a jack and bore requires two pits on either end of the pipeline to be installed. A boring machine is inserted into one pit to bore the soil using an auger to remove material. As material is removed a casing is pushed forward until it reaches the receiving pit. After the casing is installed, the pipe is inserted in the casing. The jacking pit has typical dimensions of 8 to 12 feet wide and 25 to 35 feet long depending on the casing length selected. The depth would depend on the feature to be avoided, existing utilities, or separation requirements. The exact depths of the pits and drilling will be defined if jack and bore is selected and design begun.

Shoring, appropriate to the pit depth, would be used to support the excavation. In addition, the back wall of the jacking pit would need to be constructed to withstand the reactive forces from the jacking frame. Generally, an additional 1,500 to 2,000 square feet would be needed around the pit for temporary storage of pipe sections and for loading material removed from the bore. The receiving pit at the other end of the crossing would be smaller, typically approximately 100 square feet.

2.5.2.3 Franklin Creek Crossing

The Franklin Creek crossing would be constructed in one of two ways: 1) open trench through the concrete channel or 2) via pipe bridge. Open trench construction across the concrete channel would cross Franklin Creek adjacent to Franklin Park, between Meadow View Lane and Sterling Avenue. The trench would be approximately 13 feet wide and would cross perpendicular to the channel. This portion of Franklin Creek is a concrete-lined channel that does not support wetlands, riparian habitat, or vegetation and the concrete channel would be restored to pre-project conditions after installation of the pipeline.

Construction of the pipe span over Franklin Creek would be from the creek bank. An example is shown in **Figure 2-**. Construction personnel would use small cranes, or excavators to raise and lower the pipe into place. The purified water pipe would be routed above grade before spanning Franklin Creek and would use pipe support(s) mounted to the adjacent bridge or concrete channel wall. If the pipe penetrates through the concrete channel wall instead of using pipe supports to clear it, a small amount of new rebar reinforced concrete would be used to close the penetration and provide confinement for the purified water pipe.

Figure 2-13: Existing Franklin Creek Pipe Bridge

2.5.3 Injection Wells

Construction of the injection wells would include, but not be limited to: soil improvements, civil site work and grading, concrete construction, well drilling and installation, site piping, mechanical, electrical, instrumentation, controls, SCADA systems, and equipment installation. The impacted area during construction would be limited to approximately 10,000 square-feet with the final well area of 60-feet by 100-feet. The well site may include a 12-foot by 6-foot vault with two 2-foot by 3-foot access hatches (see Figure 2-5 above). The vault will be approximately 7-feet deep. Alternatively, the well head and associated piping and appurtenances may be located above grade in screened cages in lieu of a below-grade vault (see Figures 2-6 and 2-7 above).

Electrical service would be required at each injection well to provide power to the well's motor control center (MCC) and well pump motors. The electrical meter panel, switchgear and MCC would be located above-grade and are approximately 11-foot by 2-foot footprint. Depending on proximity of injection wells to each other, a single MCC could power multiple wells; this would need to be confirmed during final design. At each end of the vault would be air vent stacks to allow for ventilation of the vault. Vents are approximately 6-inch diameter and 3-feet above grade.

2.5.4 Ocean Outfall

To make the modifications to the outfall diffusers, divers and a support vessel would be required. The duckbill valves would be mounted to the outfall in the same alternating configuration as the existing diffusers. For the existing diffusers that are in good condition, the duckbill valve could potentially be mechanically attached to the existing plate and nipple. Based on recent observations, it is likely that existing diffuser plates would be removed and new fabricated diffuser plates with risers, elbows and flanged duckbill valves would be affixed to the outfall over the existing ports. The tools required will be typical of underwater tools used for minor marine construction (e.g. pneumatic drivers, drills, etc.).

2.5.5 Equipment and Staging

Equipment required for the CAPP may include, but is not limited to: trucks, excavators, backhoes, front-end loaders, dump trucks, diesel generators, water trucks, compactors, concrete trucks, truck-mounted suction-lift diesel pumps. Staging for the facilities to be constructed at the WWTP site will occur on the CSD WWTP site, along the disinfection basin. Staging areas for the wells and pipelines would be located generally on vacant and CVWD or CSD-owned parcels in the vicinity of the construction activities, such as the District Yard. Staging would involve storage of pipes, equipment, spoils, and other materials.

2.5.6 Trip Generation

To characterize and analyze potential construction impacts, maximum crew size, truck trips, and worker trips have been estimated based on expected excavation volumes and quantities of imported materials. The main pieces of equipment that may be used at any given time during construction include:

- truck-mounted drill rigs
- track-mounted excavators
- backhoes
- graders
- crane
- scrapers
- compactors
- end and bottom dump trucks
- front-end loaders
- water trucks
- paver and roller
- flat-bed delivery trucks
- forklifts
- concrete trucks
- compressors/jack hammers
- trenchless auger/drill rig

Assuming an average crew of 10 people, including inspectors, construction could generate up to 8 round-trip trips per day. In addition, during peak construction, the Proposed Project would require an average of 4 to 5 round-trip concrete delivery and/or soil export truck trips per day (assuming up to 45 cubic yards per day). During construction, other materials would be delivered: process, mechanical, and electrical equipment; rebar for concrete; structural steel, CMU block, and wood trusses for buildings; and electrical conduit. Estimated average materials delivery round trips are 1 to 2 per day.

2.6 Proposed Operations and Maintenance

The following describes briefly the operations and maintenance (O&M) for each of the Project's proposed key facilities:

- AWPF:
  - Daily inspections and maintenance of UF/RO/UV/AOP treatment processes.
  - MF: Backflush for 60 to 120 seconds at 20 to 40 minute intervals; daily extended flux maintenance cleans; weekly to monthly chemical clean in place (CIP).
  - RO: Chemical CIP monthly; membranes estimated to be replaced every 5 years.
- Pump stations: daily inspections and routine pump maintenance
- Pipelines: periodic inspections of pipeline and exercising valves
- Injection wells: periodic backwash 1 time per week per well for approximately 60 minutes; backwash flowrate up to two times the injection flowrate, anticipated to be 700 gallons per minute.
- Chemical delivery: deliveries of AWPF chemicals, up to eight truck trips per month depending on chemical supplier and logistics

2.6.1 Energy Requirements

Table 2-4 presents the estimated operational energy requirements of each of the proposed facilities, including the power and energy consumption.

Table 2-4: Energy Consumption

Facility Description	Qty	hp	hrs/day	kWh / yr	Comments
AWPF feed pump station	2	15	24	196,000	
MF/UF Feed Pumps	4	20	24	522,600	
MF/UF Backwash Pump	2	20	24	261,300	
RO transfer pumps	3	10	24	196,000	
RO feed pumps	4	40	24	1,045,200	
UV reactors	2	23	24	300,500	
Ancillary AWPF facilities	10	10	24	653,200	See Note 1
PW pump station	3	40	24	783,900	
Well backwash	3	75	1	3,000	Assumes 1 hr per week per well
Total Annual Power Consumption				**3,961,700**	

Notes:

1. Assumes less than 10 hp per pump: MF/UF and RO Neutralization Pump, MF/UF Blowers and Air Compressors, Interprocess Tank Transfer Pumps, MF/UF and RO CIP Pumps, Chemical Metering Pumps, RO Flush Pump, UV/AOP Transfer Pumps, Process Monitoring, Online Analyzers.

2.7 Permits/Approvals Required

Permits and approvals that may be required for the Proposed Project are provided in **Table 2-5** (on the following page).

2.8 Construction Schedule

Construction is expected to take approximately 1.5 years for the 1.0 MGD initial project. A more detailed construction schedule will be included in the appropriate follow-on CEQA document (EIR or MND). This assessment assumes that construction activities would be limited to day-time, consistent with the City's allowed hours for construction.

Table 2-5: Permits and Approvals

Agency	Type of Approval
Federal	
U.S. Environmental Protection Agency	Maintains inventory for Underground Injection Program
U.S. Fish & Wildlife Service	Federal Endangered Species Act consultation for sensitive species (potential)
U.S. Army Corps of Engineers	Clean Water Act Section 404, Nationwide Permit 7
State	
State Water Resources Control Board – Department of Drinking Water	Review and approval of Engineering Report; Recommendations to Central Coast Regional Water Quality Control Board for Waste Discharge Requirements
Central Coast Regional Water Quality Control Board (Region 9)	Issuance of updated Waste Discharge Requirements for CSD WWTP (Order No. R3-2017-0032 [NPDES No. CA0047364])
	NPDES for backwash discharge into Franklin Creek (if sewer discharge not used)
	NPDES General Construction Permit / Stormwater Pollution Prevention Plan (SWPPP)
California Department of Fish and Wildlife	CA Fish & Game Code §1602 Streambed Alteration Agreement for Franklin Creek crossing (potential)
	CA Endangered Species Act consultation for sensitive species
California Department of Transportation	Encroachment Permit
California Coastal Commission	Coastal Development Permit (ocean outfall)
Local	
City of Carpinteria	Conditional Use Permit / Coastal Development Permit
	Approval of Traffic Management Plan
	Approval of Construction Stormwater Pollution Prevention Plan (SWPPP)
	Encroachment Permits
	Haul Route Permit
Santa Barbara County Planning and Development	Coastal Development Permit (if Well Site #6 selected)
Santa Barbara County Environmental Health Services	Well/Boring Installation Permit
Santa Barbara County Air Pollution Control District	Air Pollution Control Permit for Standby Generator

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3. ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Carpinteria Advanced Purification Project (CAPP or Proposed Project)

2. **Lead Agency Name and Address:** Carpinteria Valley Water District
1301 Santa Ynez Ave.
Carpinteria, CA 93013-0637

3. **Contact Person and Phone Number:** Robert McDonald, General Manager
Carpinteria Valley Water District
1301 Santa Ynez Ave.
Carpinteria, CA 93013-0637
(805) 684-7214

4. **Project Location:** City of Carpinteria

5. **Project Sponsor's Name and Address:** Carpinteria Valley Water District (CVWD)
1301 Santa Ynez Ave.
Carpinteria, CA 93013-0637

6. **General Plan Designation:** The CAPP is primarily located within the public ROWs along Linden Avenue, Eugenia Place, Carpinteria Avenue, Maple Avenue, 8th Street, Palm Avenue, and 6th Street surrounded by Low Density Residential (LDR), Public Facility (PF), Medium Density Residential (MDR), General Commercial (GC), Visitor-Serving Commercial (VC), and General Industrial (GI). The Carpinteria Sanitary District (CSD) Wastewater Treatment Plant (WWTP) site is designated as PF. Well Site #6 would be located in unincorporated Santa Barbara County, in a designated Agricultural area.

7. **Zoning:** The pipeline alignment is primarily located within public ROWs. City of Carpinteria zoning surround the alignment includes Community Facility District (CF), Single Family Residential (7-R-1), Planned Residential Development District – Maximum Density 18 Units/Acre (PRD-18), Commercial Planned Development District (CPD), Planned Residential Development District – Maximum Density 20 Units/Acre (PRD-20), Planned Residential Development District – Maximum Density 13 Units/Acre (PRD-13), Central Business District (CB), and General Industrial District (M). The CSD WWTP is zoned for CF and Public Utility District (UT). Santa Barbara County zoning designation for Well Site #6 is Agriculture.

8. **Description of Project**: The CAPP will comprise groundwater recharge with recycled water to reduce CVWD's dependence on surface water with a locally controlled and drought proof water supply. The proposed project will entail advanced water treatment (ultrafiltration [UF]/ reverse osmosis [RO]/ advanced oxidation process [AOP]) of effluent from the CSD WWTP for recharge of the Carpinteria Valley Groundwater Basin. The method of recharge will be direct injection and this Initial Study evaluates 6,000 linear feet (LF) of 12-inch pipe and 1,000 LF of 8-inch pipe for conveyance, a 100-horse power (HP) pump station, three 16-inch injection wells at 450-GPM capacity, backwash piping for well maintenance, six groundwater monitoring wells, and improvements to the CSD's ocean outfall. Existing CVWD wells will remain in operation for production.

9. **Surrounding Land Uses and Setting:** The Proposed Project is in the City of Carpinteria and unincorporated Santa Barbara County, California. The project is located at the CSD WWTP and adjacent roadways, which traverse through single family and planned residential development neighborhoods, and commercial and industrial areas.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)**

    Table 2-5, above, identifies the potential public agency approvals that may be needed for the Proposed Project, depending on the final injection wells sites and associated conveyance alignments.

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 2180.3.1? If so, has consultation began?**

    Outreach to the local tribes has not yet occurred, but consultation is anticipated to be requested with the local Chumash tribe, which has historical and traditional ties to the Study Area. CVWD will complete required tribal consultation once a decision has been made to pursue a Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR).

Environmental Factors Potentially Affected

The proposed project could potentially affect ("Potentially Significant Impact" or "Less than Significant Impact with Mitigation Incorporated") the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor and present mitigation measures that would reduce all impacts to less than significant.

☒ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology and Soils
☐ Greenhouse Gas Emissions	☒ Hazards/Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Planning	☐ Mandatory Findings of Significance	☐ Mineral Resources
☒ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☒ Transportation and Traffic	
☒ Tribal Cultural Resources	☐ Utilities and Service Systems	

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an environmental impact report is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

_____ _____

Signature Date

_____ _____

Printed Name For

3.1 AESTHETICS

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Discussion

The City of Carpinteria is located in the southeastern portion of Santa Barbara County, adjacent to the Pacific Ocean. The City contains a varied topography that contributes to a unique visual landscape. The City's General Plan/Local Coastal Land Use Plan (City of Carpinteria, 2003) identifies the unique visual qualities afforded to the City due to its location between the Santa Barbara Channel and Santa Ynez Mountains, which include panoramic views of the Pacific Ocean and the Channel Islands. Similarly, the County's Comprehensive Plan also acknowledges the value of the visual resources in the County, particularly the coastal areas (Santa Barbara County, 2010). The visual environment contains undisturbed natural features including marshes, creeks, bluffs, beaches, parks, and agriculture. The Carpinteria Bluffs and trails along the bluffs are considered an important viewing area.

There are no officially designated State Scenic Highways within the City of Carpinteria. Highway 101, which runs northwest/southwest through the center of the City is an Eligible State Scenic Highway and has not been officially designated.

a, c) Less than Significant Impact

The varying topography with the Santa Ynez Mountains to the northeast and the Santa Barbara Channel to the southwest of the City provides for an abundance of scenic resources and scenic vistas throughout the City. The Santa Ynez Mountains are visible from Linden Avenue along the northern most portion of the proposed pipeline alignment. Potential impacts associated with construction of the pipelines would be temporary and would be minimized by restoring the ground surface to pre-construction conditions. The injection wells are anticipated to be constructed utilizing below-grade vaults and would not impact surrounding views or scenic resources. There is a possibility that injection wells may be constructed aboveground and enclosed with an open fence (chain-link style), but the enclosure would be less than six feet in height and result in minimal changes to the aesthetics or use of the site. Aboveground wells would be screened with landscaping where feasible, and because they would not be located near the bluffs or hiking trails, they would have less than significant visual impacts. Monitoring wells would also be constructed belowground, and when located within ROWs, disturbed areas would be restored to pre-construction conditions. Monitoring wells would not impact surrounding views or scenic resources. Similarly, the ocean outfall improvements would be below the surface of the water, and not impact surrounding views or scenic resources. Above-grade facilities would include the AWPF

and associated appurtenances. These facilities would be located within the enclosed CSD WWTP site, would be consistent with existing facilities, and would therefore not change the existing visual character of the surrounds.

Carpinteria Creek is located adjacent to the WWTP where the AWPF would be constructed. Carpinteria Creek provides a scenic corridor or vista within the Study Area; however, the WWTP site is currently developed with buildings and structures consistent with the AWPF. Additionally, there is a wall along the property bordering the creek that screens the view of the WWTP facilities from the creek and potential scenic resources provided by the creek. Therefore, impacts to scenic vistas and the existing visual character are anticipated to be less than significant and no mitigation would be required.

b) No Impact

There are no designated state scenic highways within the Study Area. Highway 101, which runs in a northwest direction through the center of the City, is an eligible state scenic highway. The proposed pipeline alignment crosses Highway 101 on Linden Ave; however, the crossing of Highway 101 is not included as part of this Proposed Project because it is being constructed as part of CalTrans' Linden and Casitas Interchange Project. Further, the eligible portion of Highway 101 as a scenic resource primarily applies to those portions with views of the Pacific Ocean, which is not visible from the portion of the freeway that runs under Linden Ave. Therefore, impacts to scenic resources within a state scenic highway are anticipated to be less than significant.

d) Potentially Significant Impact

New sources of light or glare associated with the CAPP would be installed around the new equipment at the AWPF and would be similar to and in proximity to existing light sources at the WWTP site. New light sources associated with the AWPF would comply with applicable City policies and regulations to minimize light and glare. General Plan Policy CDS6-e requires exterior and interior lighting to be low intensity and located and designed to minimize direct view of light sources. Conveyance pipeline, injection well, backwash piping, and ocean outfall construction would not require or result in any lighting or glare once completed. Although not anticipated to be necessary, if nighttime construction activities occur, impacts would be potentially significant. However, construction-related light and glare would be temporary, and impacts would cease upon completion of construction. If nighttime construction occurs, new source of light or glare could substantially impact nighttime views and mitigation would be required.

3.2 AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐

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

Discussion

The California Department of Conservation (DOC) Farmland Monitoring and Mapping Program (FMMP) designates nearly the entire City of Carpinteria as Urban and Built-Up Land (DOC, 2016). The City is surrounded by Farmland of Statewide Importance, Unique Farmland, and Prime Farmland. There are two areas within the City located north of Highway 101 designated as Unique Farmland and Prime Farmland. There are two additional areas south of Highway 101 which are designated as Farmland of Statewide Importance and Unique Farmland. The unincorporated Santa Barbara County where Well Site #6 is located is designated as Unique Farmland. Per DOC mapping of Williamson Act enrolled lands, the Study Area is urban/built up and non-enrolled land (DOC, 2015).

The California Department of Forestry and Fire Protection (CDFFP) published maps (CDFFP, 2006) which classify land cover throughout the state into eight major forest or range-related classes, including Forestland (Conifer Forest), Forestland (Hardwood Forest), Forest and Rangeland (Conifer Woodland), Forest and Rangeland (Hardwood Woodland), Rangeland (Shrub), Rangeland (Desert), Rangeland (Herbaceous), and Rangeland (Wetland). The CDFFP also classifies land cover throughout the state into four non-forest and rangeland classes including Urban, Barren/Other, Water, and Agriculture. The Study Area is primarily designated as Urban, with small amounts of Rangeland (Herbaceous), and Forestland (Hardwood Forest) (CDFFP, 2006).

a, b, e) Less than Significant Impact

There is no prime farmland or farmland of statewide importance within the Study Area, though one proposed well site is designated as Unique Farmland. None of the properties that would potentially house the Proposed Project are enrolled in the Williamson Act. The AWPF would be located at the WWTP site which is designated for public facility use and the pipeline alignments and monitoring wells would be located primarily within public ROWs below grade adjacent to areas designated for residential, commercial, industrial, and public facility uses. The potential injection well sites would be located on land designated for open space/recreation, residential, and/or public facility uses. The only land designated for agricultural use within the City is located approximately 0.5 mile to the east of the Study Area. The Study Area does include one area of Unique Farmland, at Well Site #6. This site currently is used for greenhouses. Should the site be selected for one of the wells, the well would be located adjacent to the existing greenhouse structures, and would not impact the existing agricultural practices on the site. Further, the footprint of the completed well (6,000 square feet) would be small compared to the size of the parcel, and would not result in substantial conversion of farmland. Therefore, the project would not convert prime or unique farmland, or farmland of statewide importance, conflict with existing agricultural use zoning.

c, d) No Impact

The CDFFP land cover map designates the land along Carpinteria Creek as Forestland (Hardwood Forest), which is adjacent to the WWTP. The WWTP site is designated by the City for public facility use and the Proposed Project would be consistent with the designated land use and zoning. There is no land zoned by the City for forest land or timberland. Therefore, the Proposed Project would not conflict with existing zoning for or cause rezoning of forest land or timberland, result in the loss of forest land or conversion of forest land to non-forest use, or result in any other change resulting in conversion of Farmland to non-agricultural use or conversion of forest land. Impacts are anticipated to be less than significant and no mitigation would be required.

3.3 AIR QUALITY

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

Carpinteria Valley and the City of Carpinteria lie within the Santa Barbara County Air Pollution Control District (SBCAPCD), which has set threshold limits for stationary and mobile greenhouse gas (GHG) emissions. GHG emission apply to carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF6), and nitrogen trifluoride (NF3). However, this assessment focuses primarily on CO2, CH4, and N2O because the remaining GHGs are unlikely candidates to be associated with Projects subject to the specified threshold.

The County of Santa Barbara has established air quality thresholds to assist local agencies in evaluating whether their projects have significant impacts on air quality under CEQA, which are described in the SBCAPCD's Environmental Review Guidelines (SBCAPCD, 2015). A project's effect on the environment is considered significant if operation of the project will 1) emit from all sources more than the daily trigger for offsets of any pollutants, 2) emit more than 25 pounds per day of nitrogen (NOx) or reactive organic compounds (ROC) from motor vehicle trips, 3) causes or

contributes to a violation of any California or National Ambient Air Quality Standard (except ozone), 4) exceed APCD health risk public notification thresholds, or 5) is not consistent with adopted federal and state Air Quality Plans.

The region is in non-attainment for ozone (O3) and fine particulate matter (PM10). The potential impacts of ozone are measured through emissions of ozone precursors (NOx and reactive organic compounds [ROC]); however, emissions in Santa Barbara County of construction-related NOx are generally considered insignificant when compared to overall NOx emissions in the County, and no construction-related NOx mitigation measures are required related to ozone. Due to non-compliance with PM10, dust mitigation measures are required for all discretionary construction activities.

The Proposed Project would be located within an area that is in non-attainment for O3 and for PM10. During construction, air quality impacts would primarily be from emissions associated with the use of construction equipment and vehicles, and dust from excavation activities. Once constructed, the Proposed Project's primary source of emissions would be energy used to operate its facilities, and vehicle trips for chemical deliveries to the AWPF. Employee vehicle trips are anticipated to remain approximately the same as without the Proposed Project because maintenance of the facilities would be incorporated into CSD WWTP operations as part of normal operations, and would only require the addition of one or two full-time equivalent (FTE) employees at the AWPF site. Because the work-related travel for these new employees would generally be limited to commuting between their residences and the AWPF site, it would not substantially increase the amount of vehicle travel.

a, b, c) Potentially Significant Impact

The Proposed Project may result in emissions that may violate the SBCAPCD thresholds of significance. Air pollutant emissions during construction can be estimated using CalEEMod, using project information such as equipment to be used, volume of soil excavated, and project schedule, among other factors. Given current air quality violations for O3 and PM10, along with a need to maintain protective of air quality for other pollutants for which the region is in compliance, mitigation measures may be required. To determine the degree of air quality impacts and which mitigation measures are appropriate to implement, air quality modeling must be completed. This modeling will allow CVWD to characterize the air quality impact of the Proposed Project and determine whether the Proposed Project can be implemented without conflicting with or obstructing implementation of the SBCAPCD's air quality plan.

Because the region is out of compliance for PM10, mitigation measures must be implemented to control dust during construction. These mitigation measures may include watering down areas, minimizing equipment on unpaved surfaces, and avoiding construction activities when wind conditions are unfavorable. However, the region will still be out of compliance for PM10, so any project contributing to PM10 during construction has a potentially significant impact. Operation of the Proposed Project is not anticipated to result in PM10 emissions. Similarly, because the Proposed Project is anticipated to release PM10 and NOx and ROC during construction or operation, it is possible that it will contribute to a cumulative net increase of these criteria pollutants.

d) Less than Significant Impact with Mitigation

The Proposed Project would be constructed near a number of sensitive receptors, including schools and churches for Well Sites #1, 2, 3, and 4. Additionally, the pipeline would be constructed in streets that run adjacent to sensitive uses, including schools. Nearby schools include Canalino Elementary Schools, Howard Carden School, Carpinteria Middle School, Carpinteria High School, and Rincon High School (see **Table 3-3**). Construction activities would result in temporary emissions from construction equipment and potential dust. Mitigation measures would be necessary to reduce potential impacts, such as limiting idling and implementation of dust control measures. This would be especially necessary if construction were to occur during active use of nearby sensitive receptors, such as during the school day and school year if Well Site #1 were selected. Air emissions modeling should be conducted to determine the anticipated air quality impacts and provide guidance for development of appropriate mitigation measures. Given the temporary nature of the construction activities emitting air pollutants, mitigation measures are anticipated to be able to reduce potential air quality impacts on sensitive receptors to less than significant.

e) Less than Significant Impact

Unpleasant odors associated with the Proposed Project would generally result from the use of chemicals during construction or operation. Because the Proposed Project would not increase the volume of wastewater collected or treated, there would be no change to the level of objectionable odors associated with raw wastewater flows to the WWTP site.

During construction, chemicals may be required as part of regular construction activities, and equipment emissions may be considered unpleasant smelling. However, these odors would be temporary in nature and tempered by best management practices during construction that would reduce exposure to objectionable odors to less than significant during construction.

Operational use of chemicals would generally be limited to operation of the AWPF. The AWPF is located at the existing WWTP site. The WWTP is bounded by a creek, railroad, commercial, and community facility. The AWPF itself would be located on a portion of the WWTP site near the creek, relatively far from neighboring land uses. Across the creek are large-lot single family properties, with structures on the far side of the lot from the creek. Across the railroad tracks is a large recreation area that may be able to smell strong odors from the WWTP site. This project assumes chemical storage in enclosed tanks or specific methods for handling delivery, such as those implemented to mitigate against potential impacts of hazards and hazardous materials (see *Section 3.8, Hazards and Hazardous Materials*, below). Such measures would result in limited potential exposure to odors from the AWPF, and impacts would be less than significant.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

The City of Carpinteria contains natural resources that have local, regional, and statewide significance, including natural and developed open space and a variety of natural physical resources. These resources include several environmentally sensitive habitat areas such as wetlands, butterfly habitat, marine mammal rookeries and hauling grounds, rocky points and intertidal areas, subtidal reefs, kelp beds, creeks and riparian habitat, significant native plant communities such as coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodlands, and sensitive, rare, threatened, and endangered species habitat (City of Carpinteria, 2003).

Given, the abundance of sensitive habitat areas within the City, there is potential for candidate, sensitive, or special-status species to located within the Study Area. A California Natural Diversity Database (CNDDB) search was performed on March 7, 2017 and found 32 species that may occur within the Study Area. Of those, only 10 species have a Federal or State status as threatened or endangered. **Table 3-1** consists of the 10 species with Federal or State listings and their habitats, most of which are associated with riparian and aquatic habitats. A list of marine species with protected status is shown in **Table 3-2**.

Local creeks support essential aquatic and riparian biological communities, including species such as steelhead trout, tidewater goby, and monarch butterfly that are listed as endangered, threatened, rare, sensitive, or of concern by various federal, state, and local government agencies. Carpinteria Creek, which is located adjacent to the Study Area, is distinct from other creeks within the City as it is one of only a few perennially flowing streams, even in drought years. Its lagoon, , has historically harbored the tidewater goby, an endangered fish species, and southern steelhead trout. Carpinteria Creek provides habitat to other species, including more than 200 species of migratory birds on the Pacific Flyway. The southwest willow flycatcher, an endangered species, forages at the creek (City of Carpinteria, 2003).

The entire City of Carpinteria is located within the local coastal zone. As such, the Proposed Project would be subject to regulations and policies established in the City's General Plan/Local Coastal Land Use Plan and the County's Coastal Land Use Plan to protect coastal biological resources. The Study Area is not subject to any Habitat Conservation Plans (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan. Therefore, conservation plans are not addressed further within this analysis.

Table 3-1: Species in CNDDB Search with a Federal and/or State Status, Carpinteria CA

Species Name	Federal Status	State Status	Habitats
Plants			
Chloropyron maritimum ssp. maritimum (salt marsh bird's-beak)	Endangered	Endangered	Coastal dunes, Marsh and Swamp, Salt marsh, Wetland
Animals			
Anaxyrus califonicus (arroyo toad)	Endangered	None	Desert wash, Riparian scrub, Riparian woodland, South coast flowing waters, South coast standing waters
Charadriu alexandrines nivosus (wester snowy plover)	Threatened	None	Sand shore, Wetland
Eucyclogobius newberryi (tidewater goby)	Endangered	None	Aquatic, South coast flowing waters
Oncorhynchus mykiss irideus (steelhead-southern California)	Endangered	None	Aquatic, south coast flowing waters
Passerculus sandwhichensis beldingi (wandering skipper)	None	Endangered	Marsh and swamp, wetland
Rallus longirostris levipes (light-footed clapper rail)	Endangered	Endangered	Marsh and swamp, salt marsh, wetland
Rana draytonii (California red-legged frog)	Threatened	None	Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh and swamp, Riparian forest, Riparian scrub, Riparian woodland, South coast flowing waters, South coast standing waters, Wetland
Vireo Bellii pusillus (least Bell's Vireo)	Endangered	Endangered	Riparian forest, riparian scrub, riparian woodland

Table 3-2: Marine Protected Species that May be Present in Study Area

Species Name	Federal Status[1]	State Status[2]	Habitats[3]
Anadromous Fish			
SC Steelhead DPS	Endangered	-	Freshwater rivers and streams between the Santa Maria River and the U.S.-Mexico border, coastal ocean habitat near rivers and streams
sDPS Green Sturgeon	Threatened	-	Freshwater rivers and streams Coastal ocean habitat near rivers and streams
Anadromous Fish Critical Habitat			
SC Steelhead Critical Habitat	-	-	-
Marine Invertebrates			
Range Black Abalone	Endangered	-	Primarily found in rocky intertidal and shallow subtidal reefs along the coast.
Range White Abalone	Endangered	-	Primarily found in rocky substrates alongside sand channels within coastal waters, typically at depths of 50-180 feet
Sea Turtles			
East Pacific Green Sea Turtle	Threatened	-	Generally found in coastal waters, bays and estuaries, particularly in areas with seagrass beds.
Olive Ridley Sea Turtle	Threatened/Endangered	-	Primarily found in tropical and warm temperate open oceans. Nesting habitat occurs along continental coastlines (not typically on islands).
Leatherback Sea Turtle	Endangered	-	Primarily found in open ocean water. Nesting habitat occurs on sandy beaches.
North Pacific Loggerhead Sea Turtle	Endangered	-	Generally found in open ocean, as well as inshore areas including bays, lagoons, salt marshes, creeks, and the mouths of large rivers. Nesting habitat primarily occurs on open beaches or along narrow bays.
Whales			
Blue Whale	Endangered	-	Blue whales migrate seasonally between summer feeding grounds and winter breeding grounds They prefer deep waters to shallow coastal waters. The North Pacific blue whales live off the California coast and migrate to waters off the coast of Mexico and Central America in winter.
Fin Whale	Endangered	-	Primarily found in deep, offshore waters of all major oceans, primarily in temperate to polar latitudes. Most migrate from the Arctic and Antarctic feeding areas in the summer to tropical breeding and calving areas in the winter.
Humpback Whale	Endangered/Threatened	-	Generally found close to shore and are commonly surface active. They seasonally migrate between high-latitude summer feeding grounds and winter mating and calving areas in tropical waters. While calving, they prefer shallow, warm waters commonly near offshore reef systems or shores. Humpback whale feeding grounds are generally in cold, productive waters.
Southern Resident Killer Whale	Endangered	-	During the spring, summer, and fall, the range of Southern Resident killer whales includes the inland waterways of Washington State and the transboundary waters between the United States and Canada. Less is known about their

Species Name	Federal Status[1]	State Status[2]	Habitats[3]
			winter movements and range. They have been spotted as far south as central California during the winter months and as far north as Southeast Alaska.
North Pacific Right Whale	Endangered	-	Although migration patterns are unknown, it is thought the whales spend the summer in far northern feeding grounds and migrate south to warmer waters, such as southern California, during the winter. Nursery areas are in shallow, coastal waters.
Sei Whale	Endangered	-	Found in subtropical, temperate, and subpolar waters, however, temperate waters in the mid-latitudes are preferred. They are typically observed in deeper waters far from the coastline.
Sperm Whale	Endangered	-	Primarily found in deep, offshore waters. In some mid-latitudes, sperm whales seem to generally migrate north and south depending on the seasons, moving toward the poles in the summer. However, in tropical and temperate areas, there appears to be no obvious seasonal migration.
Pinnipeds			
Guadalupe Fur Seal	Threatened	Threatened	Found in the waters off southern California and the Pacific coast of Mexico. During the breeding season, they are found in coastal rocky habitats and caves.
Essential Fish Habitat			
Groundfish	-	-	-
Coastal Pelagics	-	-	-
Highly Migratory Species	-	-	-

Sources:

1. NOAA. 2016. California Species List – Quadrant 34119-D5, Carpinteria. November. Available: https://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html
2. CDFW. 2018. State and Federally Listed Endangered and Threatened Animals of California. 6 August. Available: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405
3. NOAA. 2018. Find a Species. Accessed: 16 November 2018. Available: https://www.fisheries.noaa.gov/find-species.

a, b, c) Potentially Significant Impact

The majority of Proposed Project facilities would be constructed on previously disturbed or developed land and within public ROWs. The AWPF would be constructed at the CSD WWTP, a developed site. Several of the potential injection well sites would be located within parks or open space with ornamental landscaping. Modifications to the ocean outfall would occur within and along the diffuser which extends approximately 1,600 feet into the Pacific Ocean. Ocean outfall modifications would not impact the ocean floor.

Because the Study Area is located adjacent to Carpinteria Creek, and due to the modifications to the ocean outfall, there is potential for special status species to occur within the Study Area and the Proposed Project would have the potential to substantially impact special-status species. A Biological Resources Assessment prepared by a qualified biologist, including a site-specific field survey, is necessary to further assess and document biological resources within the Study Area and potential impacts to special-status species, riparian habitat or other sensitive natural community, or federally protected wetlands that may result from the Proposed Project. It is anticipated that mitigation measures would be required to reduce potential impacts to less than significant levels.

d) Less than Significant Impact with Mitigation

Carpinteria Creek is located adjacent to the Study Area and could be used by wildlife species as a movement corridor. As discussed in the City's General Plan/Local Coastal Land Use Plan, Carpinteria Creek supports essential aquatic and riparian biological communities, including species such as steelhead trout, tidewater goby, and monarch butterfly, as well as a wide variety of migratory and nesting birds. Further, the Carpinteria State Beach and nearby Salt Marsh Park may be home to migratory birds or other sensitive species that may be disturbed by construction activities. As such, a Biological Resources Assessment prepared by a qualified biologist, including a site-specific field survey, would be required to further assess and document biological resources within the Study Area and potential impacts to the movement of any native resident or migratory fish or wildlife species or migratory corridor that may result from the Proposed Project. Should the Biological Resources Assessment identify potential impacts to migratory species, it is likely that such impacts could be mitigated to less than significant through pre-construction surveys, construction buffers, and protection of work spaces.

e) Potentially Significant Impact

Because the entire City is within the Coastal Zone, CVWD will be required to obtain a Coastal Development Permit (CDP) from the City. The City's General Plan/Local Coastal Land Use Plan includes a policy that requires a 50-foot setback from creeks to protect sensitive biological resources including sensitive habitat communities and special status species. The proposed location of the AWPF is within 50 feet of Carpinteria Creek; however, the site is currently developed with a WWTP and associated facilities and there is a concrete wall along the property boundary separating the facilities from the creek and associated habitat. The majority of the area for the proposed AWTP is currently paved with asphalt and used for parking and storage. Other locations on the WWTP site outside of the 50-foot setback from the creek were considered, but the proposed location is the only option to allow for sufficient access to existing buildings on the site. Further, Well #5 may also be within the 50-foot setback for Franklin Creek because it may be challenging to site it further from the creek due to the constraints of the park selected for Well Site #5.

No other components of the Proposed Project are anticipated to conflict with the City's General Plan/Local Coastal Land Use Plan. Construction of the injection and monitoring wells, pipelines, and outfall are not anticipated to require tree removal or result in substantial conversion of existing resources to land uses inhospitable to protected biological resources. Well Site #6 does not conflict with the County's Comprehensive Plan's Conservation Element.

Although the Proposed Project would conflict with the City's Local Coastal Land Use Plan, it is not anticipated to conflict with other local plans or policies established to protect biological resources. The Proposed Project would comply with the requirements of the CDP. Impacts are potentially significant, and mitigation may be required as a condition of the applicable permits.

f) No Impact

The Study Area is not subject to any HCPs, NCCP, or other approved local, regional, or state habitat conservation plan. Thus, no impacts would occur and no mitigation is required.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☒	☐	☐	☐

b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Discussion

The Carpinteria Valley area was historically populated by the Native American group known as the Chumash. The Chumash occupied the region from San Luis Obispo County to Malibu Canyon on the coast, and inland as far as the western edge of the San Joaquin Valley, and the four northern Channel Islands. There are many archaeological sites recorded within the Carpinteria Valley. Native American consultation for other projects within the area indicates the Study Area is considered highly sensitive to the Chumash and the tribe have expressed concerns that buried resources, including human burials, could potentially occur within the Study Area.

The City of Carpinteria does not include any districts formally designated as historic. There are five historical landmarks within the City's boundaries, and one State Historic Landmark (designated by two markers). Three of the City's five landmarks are trees, including the Wardholme Torrey Pine (5160 Carpinteria Avenue), palm trees between 7th and 8th Street at the corner of Linden Avenue and 7th Street, and the Portola Sycamore Tree (5300 6th Street). The remaining two City landmarks include the Site of the Original Library (892 Linden Avenue) and the Heath Ranch Park and Adobe (Eucalyptus Street). The only State landmarks are two markers located at the 956 Maple Avenue and near Carpinteria Creek bridge on Carpinteria Avenue that mark the location of a Chumash village (City of Carpinteria, 2003).

a-d) Potentially Significant Impact

Construction of the Proposed Project would require grading and excavation, primarily within public rights-of-way and within previously developed or disturbed areas. Given the cultural sensitivity of the area, and with the grading and excavation activities that would occur during Proposed Project construction, there would be potential to uncover archeological, paleontological, or other significant cultural resources during construction. Therefore, the Proposed Project could result in a potentially significant impact to cultural resources.

A Cultural Resources Assessment, including a site-specific pedestrian survey by a registered archeologist, would be necessary to further assess and document cultural resources within the Study Area and potential impacts that may result from the Proposed Project. The Cultural Resources Assessment would include a search of the cultural resource records housed at the California Historical Resources Information System (CHRIS) to identify all previous cultural resources work and previously recorded cultural resources within a 0.5-mile radius of the Proposed Project and a survey of the Study Area to identify potential cultural resources that have not been previously recorded. It is anticipated that mitigation measures would be required to reduce potential impacts to less than significant levels.

Additionally, Native American outreach and consultation with California Native American tribes in accordance with Assembly Bill (AB) 52 would be required. Impacts to cultural and tribal cultural resources are potentially significant.

3.6 GEOLOGY AND SOILS

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on 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?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have 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?	☐	☐	☐	☒

Discussion

The City of Carpinteria is located within the Transverse Ranges geomorphic province of southern California. According to the California Geological Survey (CGS), the Transverse Ranges geomorphic province is composed of a series of steep, east-west trending mountain ranges, which is in contrast to the northwest trend of coastal California and surrounding mountain ranges (CGS, 2002).

Southern California is considered a seismically active region. Faults that have historically produced earthquakes or show evidence of movement within the past 11,000 years are known as “active faults.” The Carpinteria Fault and Rincon Creek Fault are concealed faults that traverse the City and are within the Study Area, the Arroyo Parida Fault

is located approximately one mile north of the City, and the Shepard Mesa Fault is located approximately 1.5 miles to the northeast of the City. According to the California Department of Conservation, Division of Mines and Geology, all four faults are considered inactive; however, the City considers the faults to be potentially active for planning purposes. The City does not lie within an Alquist-Priolo fault rupture hazard zone as defined by CGS (CGS, 1986). The closest Alquist-Priolo fault rupture hazard zone, Pitas Point, is located approximately four miles to the southeast of the Study Area. Although there are no active faults within the City, moderate to strong earthquakes can occur on numerous faults within proximity to the City resulting in moderate to high ground shaking potential within the Study Area.

According to the City's General Plan/Local Coastal Land Use Plan, the majority of the City of Carpinteria, including the Study Area, has a high liquefaction potential (City of Carpinteria, 2003). The Study Area does not fall with the areas designated as having a high landslide potential in the City's General Plan/Local Coastal Land Use Plan, but recently updated emergency maps show the WWTP site is in a debris flow risk area and flagged for potential evacuations in the event of high storm risk (Santa Barbara County, 2018). This debris flow risk designation is related to storm-caused debris flows, rather than seismic event-driven. Portions of the City are also susceptible to inundation by tsunami (DOC, 2018). The majority of the Study Area is located within the potential limits of tsunami inundation, as depicted in the City's General Plan/Local Coastal Land Use Plan Safety Element (City of Carpinteria, 2003).

According to the USDA Natural Resources Conservation Services Soil Mapping (USDA, 2018), soils in the Study Area include Goleta loam (0 to 2 percent slopes), Camarillo variant fine sandy loam, and Metz loamy sand. The City's General Plan/Local Coastal Land Use Plan shows areas of potentially high expansive soils in the western portion of the City.

a.i, a.iv) Less than Significant Impact

The Study Area does not lie within an Alquist-Priolo fault rupture zone as delineated by the CGS. The Carpinteria Fault and Rincon Creek Fault trend toward the southwest end of the Study Area. These faults are both inactive, concealed faults. Therefore, the probability of surface rupture within the Study Area appears low and impacts associated with surface fault rupture are anticipated to be less than significant, and no mitigation would be required.

According to the City's General Plan/Local Coastal Land Use Plan and the Santa Barbara County Comprehensive Plan, the Study Area is not located within proximity to an area identified as being prone to earthquake-induced landslides. Impacts associated with landslides are anticipated to be less than significant.

According to the City's General Plan/Local Coastal Land Use Plan, the Study Area is located within an area designated as vulnerable to earthquake-induced liquefaction. Thus, the Proposed Project has the potential to expose people or structures to earthquake-induced liquefaction. However, compliance with applicable design and construction standards would likely reduce potential impacts associated with exposure to earthquake-induced liquefaction to less than significant and additional mitigation would not be required.

a.ii, a.iii): Less than Significant Impact with Mitigation

Southern California is known to be seismically active. Two faults, the Carpinteria Fault and Rincon Creek Fault, trend toward the Study Area and are considered inactive; however, the City considers the faults to be potentially active for planning purposes. Two additional potentially active faults are located within two miles of the Study Area to the north-northeast. Due to the seismically active region and close proximity of four potentially active faults, the Study Area has potential to be impacted by seismic ground shaking.

The City's General Plan/Local Coastal Land Use Plan also shows the areas of potentially high expansive soils. The Proposed Project components would be located outside of the areas of potentially high expansive soils with the exception of the potential Franklin Park injection well location (Well Site #5). Soil testing would be conducted prior to final selection of the injection and monitoring well site and the potential for soil expansion would be considered in the

site selection process. However, mitigation may be required to reduce potential liquefaction and expansive soil impacts to less than significant levels.

b) Less than Significant Impact

Construction of the Proposed Project would include removal of gravel and asphalt areas at the WWTP site to construct the proposed AWPF, as well as trenching for the pipelines and deep drilling for the injection and monitoring wells, resulting in land and soil disturbance during construction. As such, construction of the Proposed Project would be required to comply with the Construction General Permit, which is issued by the State Water Resources Control Board (SWRCB). Although all stormwater would be collected onsite at the WWTP, and be conveyed back into the wastewater system for treatment, a Storm Water Pollution Prevention Plan (SWPPP) is still anticipated to be required for compliance with the Construction General Permit, which requires the development of a SWPPP for sites over one acre. The SWPPP outlines Best Management Practices (BMPs) that would be implemented to reduce erosion and topsoil loss from storm water runoff. Compliance with the Construction General Permit would ensure that construction of all facilities associated with the Proposed Project follows mandated BMPs, and therefore, would not result in substantial soil erosion or the loss of topsoil. Impacts are anticipated to be less than significant, and no mitigation would be required.

c, d) Less than Significant Impact

The City's General Plan/Local Coastal Land Use Plan and Santa Barbara County Comprehensive Plan indicates that the Study Area is susceptible to liquefaction. However, potential impacts from lateral spreading, subsidence, liquefaction, or expansive soils would likely be reduced to less than significant levels through implementation of applicable design and construction standards. Therefore, impacts are anticipated to be less than significant, and no mitigation would be required.

e) No Impact

The Proposed Project would include construction of an AWPF, conveyance pipelines, injection and monitoring wells, backwash piping, and outfall improvements and would not necessitate use of septic tanks or alternative wastewater disposal systems. Therefore, no impacts are anticipated to occur and no mitigation would be required.

3.7 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

Carpinteria Valley and the City of Carpinteria lie within the Santa Barbara County Air Pollution Control District (SBCAPCD), which has set threshold limits for stationary and mobile GHG emissions. As described in *Section 3.2 Air*

Quality, this assessment focuses primarily on CO2, CH4, and N2O because the remaining GHGs are unlikely candidates to be associated with Projects subject to the specified threshold.

The County of Santa Barbara has established air quality thresholds to assist local agencies in evaluating whether their projects have significant impacts on air quality under CEQA, which are described in the SBCAPCD's Environmental Review Guidelines (SBCAPCD, 2015). For GHGs, a project has a significant impact if operation of the project will 1) emit more than 10,000 metric tons per year (MT/yr) CO2 equivalent (CO2e), or 2) does not show compliance with an approved GHG emission reduction plan or mitigation program, or 3) does not show consistency with the AB32 Scoping Plan GHG emission reduction goals (reducing project emissions 15.3% below Business as Usual). GHG emissions are evaluated as direct, those that are emitted by a project's facilities or other activities directly involved with operation of the project (e.g., vehicle trips for project employees), and indirect, those that are emitted by offsite activities not directly controlled by the project such as electricity generation.

Operational air quality and GHG emissions are generally associated with energy demands of the project and any specific equipment that releases emissions. GHGs are classified as being emitted from stationary or mobile sources for both direct and indirect emissions. The Proposed Project is considered a stationary source, where GHGs are likely to result from the power needed to run the AWPF and pump station.

a, b) Less than Significant Impact

SBCAPCD requires that the emissions of each GHG is disclosed, and that those numbers then be converted into the project's total emission in MT/yr of CO2e. To calculate the operational emissions for each of the three relevant pollutants, the total electrical demand of the project must be known, as well as the utility company that will supply the electrical power or "grid power." The Proposed Project requires 4,549,600 kWh/yr for operation and maintenance. Grid power will be supplied by Southern California Edison which has Intensity Factors (lb/MWh) of 702, 0.029, and 0.00617 for CO_2, CH4, and N_2O respectively. As such, the Proposed Project would produce 1,449 MTCO2e/yr.

The SBCAPCD has set a threshold for all stationary sources at 10,000 MTCO2e/yr. Thus, the Proposed Project does not constitute as contributing to a significant GHG impact. The complete air quality modeling and report completed for the MND or EIR will provide this analysis.

3.8 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Discussion

Hazardous materials are used throughout the Study Area for residential, commercial, industry, medical practices, research, transportation, construction, and other uses. Through natural events, system failures, and accidents (spills), hazardous materials have the potential to pose a risk to the environment and human health. Numerous local, state, and federals laws exist to regulate the storage, use, handling and transportation of hazardous materials. To increase public safety and awareness of hazardous materials exposure risk, businesses and other entities that handle, store, transport, or use hazardous materials are required to file reports with appropriate authorities and maintain emergency response plans in the event of a hazardous materials release.

A regulatory agency records search was performed for the Study Area using the SWRCB GeoTracker database (SWRCB, 2018a) and the California Department of Toxic Substances Control (DTSC) EnviroStor database (DTSC, 2018). These lists are a compilation of information from various sources listing potential and confirmed hazardous waste and hazardous substances sites in California. No sites of potential concern are listed on the DTSC EnviroStor database within one mile of the proposed project site. Twenty-three sites of potential environmental concern within a quarter mile of the Proposed Project are listed on the SWRCB GeoTracker database, all of which are closed cases with the exception of three sites. The open SWRCB-listed sites include:

- Former Tec/Tyco Facility on 6th Street (approximately 0.25 miles northwest of the WWTP site; listed under the Cleanup Program for 1,1,1-trichloroethane (TCA), cyanide, dichloroethene (DCE), lead, nickel, tetrachloroethylene (PCE), trichloroethylene (TCE)),
- Former Camarillo Auto Repair on Carpinteria Avenue (approximately 0.15 miles northwest of Linden Avenue; listed under the Cleanup Program for chromium, diesel, gasoline, lead, other chlorinated hydrocarbons, other metal, PCE, toluene, TCE), and
- Westland Floral Company Carpinteria, Inc. – Gallup and Stribling Orchards Foothill Road (approximately 0.1 miles northwest of Franklin Park; listed under the Irrigated Lands Regulatory Program).

There are six schools located within a quarter mile of the Proposed Project. Each school, its location and distance from the Proposed Project are listed in **Table 3-3**.

Table 3-3: Schools within a Quarter Mile of Proposed Project

School	Address	Distance from Project	Project Component
Canalino Elementary School	1480 Linden Ave	adjacent	Primary Pipeline Alignment
Howard Carden School	5315 Foothill Rd	0.25 mile	Well Sites #2 and #3; Monitoring Wells
Carpinteria Middle School	5351 Carpinteria Ave	adjacent	AWPF
Carpinteria High School	4810 Foothill Rd	0.20 mile	Well Site #6; Monitoring Wells
Rincon High School	4698 Foothill Rd	0.25 mile	Well Site #6; Monitoring Wells
Aliso Elementary School	4545 Carpinteria Ave	0.25 mile	Monitoring Wells

a, b, c) Less than Significant Impact with Mitigation

The Proposed Project involves construction and operation of an AWPF, conveyance pipelines, pump stations, injection and monitoring wells, backwash piping, and outfall improvements. Construction of the Proposed Project would temporarily increase the routine transport and use of hazardous materials commonly used in construction activities. Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials, would be brought into the Study Area, used, and stored during the construction of the Proposed Project resulting in a temporary increase in the potential to expose the public or the environment to hazardous materials.

Long term operation of the Proposed Project would involve limited use and quantities of hazardous materials, such as cleaning and degreasing solvents, sodium hypochlorite, ammonium hydroxide, antiscalant, and other materials used in the regular maintenance of the treatment units, pumps, and injection wells. These chemicals would be stored in a covered, contained area near the treatment units. Chemical deliveries to the AWPF would occur via approximately eight truck trips per month (see Section 2.5 in *Chapter 2, Project Description*). Carpinteria Middle School is located within one-quarter mile of the proposed AWPF, where a majority of chemical handling would occur.

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. During Proposed Project construction and operation, implementation of established safety practices, procedures, and reporting requirements for hazardous materials would be followed to further reduce any risks. Based on the generally small quantities of hazardous materials to be used on site, and the proper storage, use, and disposal of all hazardous materials, no reasonably foreseeable upset or accident conditions involving release of hazardous materials to the environment are expected. However, it is anticipated that mitigation to reduce potential impacts associated with chemical handling and spills would be required due to the expanded chemical use and storage on the WWTP site and proximity of the site to Carpinteria Middle School. With mitigation, impacts would likely be reduced to less than significant.

d) Less than Significant Impact with Mitigation

Records searches for SWRCB GeoTracker and DTSC EnviroStor were performed for a one-mile radius of the Proposed Project to identify the presence of any active hazardous waste sites in the Study Area. Results of the database searches revealed there are 23 hazardous waste sites within a quarter mile radius of the Study Area, including three active sites and four closed cases at the WWTP site.

Grading, excavation, or other ground-disturbing activities associated with the Proposed Project are not anticipated to take place within an open hazardous waste site. However, Well Site #6 and the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue are located adjacent to two of the active sites. Well Site #6 is located adjacent to the Westland Floral Company Carpinteria, Inc. – Gallup and Stribling Orchards Foothill Road listed site. This site is listed under the Irrigated Lands Regulatory Program due to the agricultural operations that occur on the site. The Southern Potential Pipeline Alignment along 6th Street at Linden Avenue is adjacent to the Former Tec/Tyco Facility site which is listed under the Cleanup Program for the following potential contaminants of concern: TCA, cyanide, DCE, lead, nickel, PCE, and TCE. If Well Site #6 or the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue are selected for the Proposed Project, impacts would be potentially significant and mitigation to reduce exposure impacts to construction workers and the adjacent population, including a Phase I Environmental Site Assessment (ESA), may be required. Depending on the injection well sites and alignments ultimately selected, exposure to hazardous materials may be a potentially significant impact.

Other Project components are not anticipated to create a significant hazard to the public or the environment by being located within a site which is included on a list of hazardous materials sites.

e, f) No Impact

The Proposed Project is not located within two miles of a public airport or private airstrip. The closest public airport is the Santa Barbara Airport, which is located approximately 18 miles to the west of the Study Area. Therefore, the Proposed Project is not anticipated to result in an airport or airstrip-related safety hazard for people working or residing within the Study Area. No impacts are anticipated.

g) Less than Significant Impact with Mitigation

The Proposed Project would involve construction of pipelines primarily within roadway ROWs, which could temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or in emergency evacuations. Mitigation to address how the City will communicate with emergency response agencies to develop emergency access strategies would likely be required to reduce potential impacts to less than significant levels. Long term, the Proposed Project does not have any characteristics that would physically impair or otherwise interfere with emergency response or evacuation in the Study Area.

h) Less than Significant Impact

According to the California Department of Forestry and Protection (CalFire) Fire Hazard Severity Zone (FHSZ) maps, the majority of the City of Carpinteria is located within an unzoned Local Responsibility Area (LRA) (CalFire 2007). There are two small areas within the City designated as LRA Moderate. The City's General Plan/Local Coastal Land Use Plan Safety Element designates the portion of the City that includes the Study Area as a Low Fire Hazard Zone. Given the low fire hazard potential within the Study Area, significant fire-related impacts are not anticipated.

3.9 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there				

	would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion of siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation of seiche, tsunami, or mudflow?	☐	☐	☒	☐

Discussion

Surface Water

The Study Area is located in the Carpinteria Creek watershed, which is one of approximately 50 sub-watersheds that comprise the South Coast Watershed. The South Coast Watershed is the southern-most hydrologic unit within the Central Coast Basin. The Carpinteria Creek watershed is located in the southeastern portion of the South Coast Watershed and extends approximately seven miles from the Pacific Ocean to the ridge of the Santa Ynez Mountains, encompassing approximately 9,400 acres.

Two creeks are located within the Study Area, Carpinteria Creek and Franklin Creek. The Carpinteria Lagoon begins 50 feet above the ocean and extends approximately 650 feet along the Carpinteria Creek corridor to the railroad tracks. The WWTP site is located adjacent to Carpinteria Creek, just past the lagoon.

Both Franklin Creek and Carpinteria Creek are listed on the SWRCB's 303(d) list of impaired water bodies requiring development of Total Daily Maximum Load (TMDL). Franklin Creek is listed for sodium, pH, fecal coliform, and toxicity. The *TMDL for Nitrogen and Phosphorus Compounds in Streams of the Franklin Creek Watershed* was adopted by the Central Coast RWQCB in March 2018. Carpinteria Creek is listed for E. coli, fecal coliform, toxicity, chloride, sodium, nitrate and dissolved oxygen.

The Central Coast RWQCB *Water Quality Control Plan for the Central Coast Basin (Basin Plan;* RWQCB, 2017*)* establishes specific beneficial uses and water quality objectives for the water bodies included within the Central Coast Basin. Beneficial uses for Carpinteria and Franklin Creeks include:

- Municipal Supply (MUN)
- Agricultural Supply (AGR)
- Groundwater Recharge (GRW)
- Contact Water Recreation (REC1)
- Non-Contact Water Recreation (REC2)
- Wildlife Habitat (WILD)
- Cold Fresh Water Habitat (COLD)
- Warm Species Habitat (WARM)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- BIOL (Carpinteria Creek only)
- Rare, Threatened and Endangered Species (RARE)
- Estuarine Habitat (EST; Carpinteria Creek only)
- Freshwater Replenishment (FRSH)
- Commercial and Sport Fishing (COMM)

Groundwater

The Proposed Project is located within the Carpinteria Groundwater Basin (DWR Basin No. 3-18), which extends from beyond the Ventura County line on the east, to Toro Canyon on the west, from the foothills of the Santa Ynez Mountains to the north, and extending offshore to the southwest for over a mile. The Carpinteria Groundwater Basin contains multiple water bearing zones and is divided by the Rincon Creek fault into two storage units. The sustainable yield of the basin averages 3,800 AFY (CVWD, 2012).

According to CVWD's 2015 Urban Water Management Plan (UWMP), there are no known groundwater contamination issues in the Carpinteria Groundwater Basin. Manganese is a secondary water quality concern and is controlled through a treatment system operated by CVWD (CVWD, 2016a). A search of the SWRCB Groundwater Ambient Monitoring and Assessment (GAMA) Program database shows that monitoring wells within the Study Area detected nitrate levels above the MCL within the past 10 years in certain areas of the basin. However, levels of nitrate have not exceeded the MCL within the past three years (SWRCB, 2018b).

Flood Hazards

According to the City's General Plan/Local Coastal Land Use Plan (City of Carpinteria, 2003), flooding within the City is generally produced by winter storms occurring between December and March. Several local streams that discharge to the Pacific Ocean traverse the City, including Carpinteria Creek, Santa Monica Creek, Franklin Creek, Arroyo Paredo, and Toro Canyon Creek. Portions of Carpinteria Creek, Santa Monica Creek, and Franklin Creek have been channelized by the Santa Barbara County Flood Control and Water Conservation District, the U.S. Army Corps of Engineers (USACE), and the U.S. Soil Conservation Service (now Natural Resources Conservation Service [NRCS]).

There are several flood-prone areas within the City of Carpinteria. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) dated 2018, the WWTP site is located in a Special Flood Hazard Zone (land area covered by the floodwaters of the base flood). A small portion of the site adjacent to Carpinteria Creek, along the eastern perimeter, is designated as a Regulatory Floodway. The WWTP itself is located within Zone X, indicating a 0.2% annual chance flood.

In April 2018, FEMA issued a Letter of Map Revision (LOMR) in response to construction of the CalTrans Linden/Casitas Interchange Project. The LOMR mapped a majority of the WWTP site in the Regulatory Floodway of

Carpinteria Creek. In May 2018, the City issued a *Carpinteria Creek No-Rise Determination and Certification* (River Focus, 2018) that demonstrated proposed development on the WWTP site would have no impact on the revised FEMA Regulatory Floodway or base flood elevation (BFE). Subsequently, CSD prepared a comprehensive appeal to the April 2018 proposed LOMR. This appeal is currently being reviewed by FEMA and if upheld would reflect a regulatory floodway that remains within the primary channel of Carpinteria Creek and does not include the WWTP site.

Sea level rise is a concern in the region due to its location along the coast. The Ocean Protection Council notes that the effects of sea level rise is already being seen in California (OPC, 2017). OPC's *Rising Seas in California* provides sea level rise projections for three cities in the state, representing the north, central, and south: 1) Crescent City, 2) San Francisco, and 3) La Jolla. Carpinteria is located approximately halfway between San Francisco and La Jolla. San Francisco is projected to have a likely range of sea level rise between 0.3-0.5 feet by 2030, and 0.6-1.1 feet by 2050. La Jolla is projected to experience sea level rise between 0.4-0.6 feet by 2030, and 0.7-1.2 feet by 2050 (OPC, 2017). Impacts of sea level rise include narrower beaches, increased erosion of beaches and coastal bluffs, and increased flood risks and storm damages. The *4th Climate Assessment - Central Coast Region Report* indicates Carpinteria is one of the most vulnerable regions for future flooding (California Natural Resources Agency, 2018).

a) Less than Significant Impact

As part of the Clean Water Act §402, the U.S. Environmental Protection Agency (EPA) established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct storm water discharges from construction activities disturbing one acre or more of land. In California, the SWRCB administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The Proposed Project is subject to multiple NPDES permits – one for construction activities (the State's Construction General Permit), one for discharge to the Pacific Ocean from the CSD WWTP (Order No. R3-2017-0032), and one for well backwash (Order R3-2016-0035). Also, the RWQCB would issue Waste Discharge Requirements (WDRs) permit for groundwater replenishment.

Construction of the Proposed Project would require coverage under the SWRCB's *NPDES General Permit for Discharges of Storm Water Associated with Construction Activity - Construction General Permit* (Order 2009-0009-DWQ). Although stormwater would be contained onsite at the WWTP, the Construction General Permit requires preparation and implementation of a SWPPP containing BMPs to control sediment and other construction-related pollutants in stormwater discharges. Such BMPs would include but not be limited to general housekeeping practices such as sweeping up of site debris, proper waste disposal procedures, use of tarps on any stockpiles, containment of building materials, and inspection for leaks and spills from construction vehicles. Stormwater discharges from the Proposed Project site during construction are not expected to violate existing water quality standards or waste discharge requirements set by the RWQCB. With implementation of the SWPPP, impacts to the water quality of surface waters are anticipated to be less than significant.

Discharges of recycled water from the WWTP are covered under the CSD's NPDES for the CSD WWTP (Order No. R3-2017-0032). Compliance with this permit reduces water quality impacts resulting from discharge of recycled water by setting effluent limitations and discharge specifications for the CSD WWTP and requiring CSD to comply with the Monitoring and Reporting Program, visually inspect the ocean outfall and diffuser structure at least once per year. This permit would be updated to reflect the new CAPP components.

The Proposed Project would be issued a WDR permit for injection of advanced treated wastewater into the Carpinteria Groundwater Basin. The permit would be based on *Title 22 of the California Code of Regulations (CCR) 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 Project to address:

- 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

Title 22 requires an Engineering Report to be approved by the SWRCB's Division of Drinking Water (DDW) that describes compliance with the Groundwater Replenishment Reuse Project regulations. DDW recommendations are included in the WDR permit. Receipt of WDR permit from the Central Coast RWQCB to operate the Proposed Project in accordance with Title 22 requirements would ensure that the project does not result in water quality impacts to impacted water supply wells. With compliance of applicable permits and water quality regulations, the Proposed Project is not anticipated to violate any water quality standards or waste discharge requirements. Impacts are anticipated to be less than significant.

b) No Impact

The Proposed Project is intended to supplement natural recharge of the Carpinteria Groundwater Basin with 1.0 MGD (and ultimately 1.5 MGD) of wastewater treated to Title 22 standards for groundwater replenishment. The Proposed Project would have a beneficial effect on the groundwater basin by increasing groundwater levels and helping contribute to local water supply. As such, the Proposed Project is not anticipated to deplete groundwater supplies or interfere substantially with groundwater recharge.

c, e, f) Less than Significant Impact

Construction of the AWPF could alter the existing drainage pattern of the WWTP site. However, new drainage facilities would be constructed as part of the Proposed Project to address these potential changes. All stormwater and surface drainage at the WWTP site will continue to be fully captured and treated, with no off-site discharge.

Construction activities associated with the pipelines and injection wells, such as demolition of asphalt, concrete work, and drilling, could introduce additional pollutants and sediment into water runoff and flow into nearby storm drains. Construction activities including concrete work and drilling may result in loose sediment, which can be picked up by surface water or wind into nearby storm drains and into waterways. In accordance with the State's Construction General Permit, BMPs would be implemented during construction to control sediment and other construction materials from being discharged off-site in storm water runoff.

d, h) Less than Significant Impact

Construction of the AWPF could alter the existing drainage pattern of the WWTP site. According the FEMA FIRM map published in 2012, the WWTP site is located in a 100-year flood area. However, the 2018 LOMR submitted by the City of Carpinteria changes nearly the entire WWTP site to Regulatory Floodway. CSD has submitted an appeal to the LOMR based on a *Carpinteria Creek No-Rise Determination and Certification* (River Focus, 2018) that demonstrates proposed development on the WWTP site would have no impact on the FEMA Regulatory Floodway or base flood elevation (BFE).

New drainage facilities would be constructed as part of the Proposed Project to manage stormwater within the WWTP, ensuring that the site does not contribute drainage or storm flows to the floodway in Carpinteria Creek. The new drainage facilities associated with the Proposed Project would comply with the 2017 Stormwater Technical Guide for

Low Impact Development (Santa Barbara County, 2017). All stormwater generated on site would be captured and treated at the WWTP. Additionally, the Proposed Project would comply with policies and regulations established in the City's Municipal Code §15.50, City Flood Damage Protection.

Sea level rise may increase risk of flooding, especially during storm events which may impact flood levels along Carpinteria Creek. However, the WWTP site is walled in and is unlikely to face offsite sources of flood risk, such as those associated with sea level rise.

Given the location of the WWTP site within a 100-year flood area, the Proposed Project has the potential to flood during storm events. However, AWPF site design measures would reduce potential impacts to less than significant levels by capturing, storing, and routing flood flows back to the WWTP treatment train. The primary flood risk would be related to stormwater that falls directly on the WWTP site, which could be managed through proper design of onsite drainage facilities.

g, i) No Impact

The Proposed Project would not involve construction of residential housing, and therefore would not place new housing within a flood hazard area. The Proposed Project is not located within proximity to a dam or levee and would, therefore, not expose people, housing, or structures to an increased risk of loss, injury or death involving flooding resulting from the failure of a dam or levee. Impacts are not anticipated.

j) Less than Significant Impact

The majority of the Study Area, including the WWTP site, is located within the potential limits of tsunami inundations and is susceptible to the seismic hazard of tsunami (tidal waves; City of Carpinteria, 2003). Mudflows have the potential to occur in hilly areas. The proposed above-ground AWPF and associated facilities could be vulnerable to these hazards as they could be damaged during such events. While the proposed facilities may be located in the vicinity of these potential hazard areas, implementation of the Proposed Project would not expose people to these hazards as the project does not propose habitable structures. Standard structural and geotechnical engineering practices would be adequate for the proposed AWPF.

3.10 LAND USE AND PLANNING

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable HCP or NCCP?	☐	☐	☐	☒

Discussion

The Proposed Project is located in both the City of Carpinteria and in unincorporated Santa Barbara County. Additionally, the City of Carpinteria falls entirely within the Coastal Zone. As such, it is subject to both the Santa Barbara County Comprehensive Plan (County of Santa Barbara, 2010) and the General Plan/Local Coastal Land Use Plan for the City (City of Carpinteria, 2003). Land uses in the Study Area include public utilities, commercial, community facilities, single-family residential, recreation, and agricultural. There is no Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) applicable to the Study Area.

a) No Impact

The Proposed Project's facilities include underground pipelines, additional facilities within the footprint of the existing WWTP site, ocean outfall modifications, and injection wells that would be located either underground or on minimally used sections of existing lots. The Proposed Project would not construct roadways, large structures, or other features that would physically divide a community. Therefore, there would be no impact.

b) Less than Significant Impact

The AWPF and pump station would be located at the existing WWTP site and would be consistent both with the existing zoning (Utility District) and use (wastewater treatment). The conveyance and backwash pipelines would be located underground, and generally within the roadway ROWs and in locations designated for public infrastructure. They would therefore be consistent with applicable land use plans, policies, and regulations of agencies with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

The wells would be located on a variety of property types. Well Site #1 is a school property, where a well would be located on the edge of a field or playground. Three well sites (Well Sites # 2, 3, and 4) are on church-owned properties. Wells at these sites would be located in either parking lots or fields owned by and adjacent to churches. Well Site # 5 is a City-owned park alongside Franklin Creek. Well Site #6 is an agricultural site within the unincorporated County. This site is currently home to greenhouses, and the well would be located in an open area adjacent to existing greenhouses. The wells would either be underground or aboveground within a fenced enclosure. If underground, the wells would not conflict with the existing land uses or policies because they would limit disturbance of existing land uses to primarily during construction, and the overall footprint would be substantially smaller once construction is complete. Aboveground wells would have a greater impact on land use due to the larger footprint and greater visibility. However, location of the well within the selected sites would be partially based on reduction of impacts to existing land uses. As such, it is anticipated that any potential impacts on land uses would be less than significant.

Ocean outfall modifications would be undertaken with hand tools, and are not expected to create substantial disturbance to the surrounding area or seafloor during construction. Duckbill valves were specifically selected for the outfall modifications to protect both marine life and the outfall. All work completed on the outfall would be done in compliance with applicable permits and regulations. As such, it is anticipated that any potential impacts on land use would be less than significant.

c) No Impact

There is no HCP or NCCP applicable to the Study Area. As such, there is no conflict with any applicable HCP or NCCP, and there is no impact.

3.11 MINERAL RESOURCES

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Discussion

The Study Area contains one Mineral Resource Zone (MRZ), MRZ-3, classified by the California State Geologist (DOC, 1989). MRZ-3 designates areas containing mineral deposits whose significance cannot be evaluated from available data. Oil is the only substantial mineral resource known to be present within the City's planning area. Oil extraction activities consist of offshore drilling and extraction platforms, onshore oil storage facilities, a crew boat base, a product transportation terminal, and a natural gas processing plant. The County's Comprehensive Plan identifies mineral resources within its jurisdiction, excluding offshore oil resources, and does not indicate the presence of mineral resources in the portion of the Study Area in unincorporated Santa Barbara County (County of Santa Barbara, 2010).

a, b) Less than Significant Impact

The California DOC designated the Study Area as MRZ-3, indicating that the significance of mineral resources could not be evaluated from available data (DOC, 1989). The majority of proposed pipeline alignments would be constructed within areas where current infrastructure exists, primarily within ROWs, and the wells would be located on properties not anticipated to be converted to mineral resource extraction in the foreseeable future. Additionally, no mineral resources have been identified by any local plans within the Study Area. Modifications to the ocean outfall, which is located at a depth of 21 to 24 feet below mean sea level, would require divers and a support vessel. However, these modifications would have no impact on offshore oil drilling activities. As a result, the Proposed Project would not result in the loss of availability of known mineral resources that would be of value to the region or the state, or as delineated on a local plan. Impacts are anticipated to be less than significant, and no mitigation would be required.

3.12 NOISE

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Acceptable noise levels in the City of Carpinteria are regulated by a variety of municipal codes. Under Municipal Code 15.16.170, construction is limited to the hours of 7:00 a.m. to 8:00 p.m. Mondays through Friday, 8:00 a.m. to 8:00 p.m. on Saturdays, and 10:00 a.m. to 8:00 p.m. on Sundays. After-hours permits may be acquired if determined that it is required and serves the public interest. The Proposed Project is not anticipated to require after-hours construction, and construction activities would be limited to those hours identified in the municipal code. Street construction and excavation noise is regulated under Municipal Code 12.04.410, which requires contractors to implement measures to reduce noise, dust, and debris when excavating within a street or roadway ROW. It also limits construction noise during the hours of 10:00 p.m. to 7:00 a.m. to levels that do not disturb neighbors' sleep. Proposed Well Site #6 is located within unincorporated Santa Barbara County. The County's code of ordinances includes similar noise restrictions as the City of Carpinteria. Specifically, Chapter 40, Section 40-2 restricts nighttime noises between 10:00 p.m. and 7:00 a.m. Sunday through Thursday, and midnight and 7:00 a.m. Friday and Saturday to levels less than 60 decibels (dB) at the edge of the property line, or those that are not clearly discernable 100 feet from the property line.

Per the City's Noise Element, the Proposed Project is located in areas with existing noise levels of between 55 dB and 70 dB (City of Carpinteria, 2003). The AWPF is located in a 70 dB area, while Well Sites #1 though #5 are in the 60 dB area (a portion of Well Site #1 is in a 65dB area) and Well Site #6 is in a 55 dB area. Future noise contours for the City of Carpinteria show that generally the Proposed Project's components will be located in 60 dB up to 70 dB areas.

The City of Carpinteria's *Guidelines for the Implementation of the California Environmental Quality Act* (Environmental Review Guidelines), adopted in 1994, includes thresholds for determining level of significance for noise impacts of a project. Generally, noise in excess of 65 dB Community Noise Equivalent Level (CNEL) for sensitive receptors is considered significant, as is noise in excess of 65 dB for outdoor living areas and 45 dB for interior noise levels. Noise impacts are also considered significant if they substantially increase the ambient noise levels for the adjoining areas. Traffic noise levels for industrial uses are considered significant if they exceed 75 dB(A) CNEL. Generally, traffic is considered the greatest source of noise in the City, though stational noise generators are also considered potentially significant if they exceed the City's Noise Ordinance at the property line or where it results in noise levels in exceedance of 65 dB at a residential property line (City of Carpinteria, 1994).

Temporary construction noises that exceed 75 dB(a) CNEL for 12 hours within a 24-hour period at residences is considered significant, as are temporary construction noise that interfere with business communication or affect sensitive receptors. Noise impacts are significant if the project increases ambient noise by more than 3 dB (if ambient noise is already above the established noise criterion) or by more than 5 dB (if the ambient noise is currently below the established noise criterion). It is also considered significant if noise generated by the project increases the ambient noise level such that they go from below the established noise criterion to above the established criterion.

The Proposed Project would generate noise during construction from construction equipment and activities. The noise generated by construction would vary depending on the type of equipment in use at a given time and construction activity. A list of equipment likely to be used during construction of the Proposed Project is provided in *Chapter 2, Project Description*. Typical noise levels for this equipment is provided in **Table 3-4**, while typical vibration levels at 25 feet are provided in **Table 3-5**.

The City of Carpinteria does not include any airports or private airstrips. The nearest airport is Santa Barbara Municipal Airport, located approximately 18 miles northwest of the Proposed Project.

Table 3-4: Typical Construction Equipment Noise Levels

Equipment	Typical Noise Levels (dBA, at 50 feet)
Drill rig truck	79
Excavators	81
Backhoe	78
Graders	85
Crane	81
Scraper	84
Compactor	83
Dump truck	76
Front end loader	79
Water trucks	84[1]
Pavers	77
Roller	80
Flat-bed delivery trucks	74
Forklifts	75[1]
Concrete mixer truck	79
Jack hammer	89
Compressors	78
Auger drill rig	84
Impact pile driver	101

Source: FHWA, 2006.

1. Water truck noise level was assumed to be comparable to a tractor. Forklift noise level was assumed to be comparable to a man lift.

Table 3-5: Typical Construction Equipment Vibration Levels

Equipment	Typical Vibration Source Levels PPV at 25 feet (in/sec)
Vibratory roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jack hammer	0.035
Small bulldozer	0.003
Impact pile driver	0.644

Source: FTA, 2006.

a, d) Potentially Significant Impact

The Proposed Project would install conveyance and backwash pipelines along a variety of land use types, including noise-sensitive land uses (residential, long-term medical and hospitals, educational facilities, libraries, and churches). The proposed Well Sites are located near, but generally not within, noise-sensitive land uses, with the exception of Well Site #4, which would be on a property owned by the Church of Jesus Christ of Latter Day Saints. If Well Site #4 is selected, the well would be constructed within the grassy area west of the parking lot, approximately 250 feet from the church building itself.

Some equipment likely to be used during construction would have short-term noise levels that exceed the thresholds when used for AWPF construction or pipeline installation, such as jack hammers or compactors, both of which generate noises over 80 dB at 50 feet, or pile drivers for deep foundation work at the AWPF, which generate noises over 100 dB at 50 feet. Depending on how long this equipment is used in a given 24-hour period, and where the facilities would be installed in relation to nearby residential properties and sensitive receptors, noise levels may exceed the applicable thresholds.

Some proposed injection well sites are located near or within sensitive receptors, including Well Site #1, located at a school, and Well Sites #2, 3, and 4, which are located on church-owned properties. Injection and monitoring well construction will require the use of 24-hour drilling, and potentially would be located near residences or other sensitive receptors. Noise and vibration impacts associated with 24-hour drilling, though temporary, are potentially significant. Well construction may require the use of mitigation measures, such as sound walls or acoustic panels, to reduce noise exposure of nearby sensitive receptors.

Installation of the duck-bill diffusers on the ocean outfall would not generate substantial noise. Small hand tools and welders would be used for the improvements. Noise impacts for this project component are considered less than significant.

In accordance with the City of Carpinteria's Noise Element, noise should be measured at the Proposed Project's facilities to establish the existing CNEL and determine whether a noise study and associated mitigation would be required. Due to the potential for nighttime noise associated with the Proposed Project, impacts are anticipated to be potentially significant and mitigation would be likely.

b) Potentially Significant Impact

Groundborne vibrations would be considered significant if it was felt by humans or could result in damage to structures or utilities. CalTrans' Transportation and Construction Vibration Guidance Manual (September 2013) indicates

vibrations at 0.035 PPV and higher are distinctly perceptible by humans, and become disturbing at 0.17 PPV. As demonstrated in Table 3-5, at 25-feet, all listed construction equipment, with the exception of the small bulldozer, would be perceptible. Only the vibratory roller and the impact pile driver would potentially be termed "disturbing" at 25 feet.

The vibration impacts of the Proposed Project could be significant during construction, particularly those associated with nighttime drilling. Construction of the AWPF and pipelines are unlikely to have sustained vibration impacts to neighbors, though the pile driving for the AWPF deep foundation work may be felt by neighbors. However, the noise study conducted to support the MND or EIR would help determine the type and level of mitigation that may be required for nighttime drilling and for the AWPF foundation work. Impacts are anticipated to be potentially significant and mitigation would be likely.

Operation of the Proposed Project is not anticipated to result in vibrations that will be disturbing to residents or businesses, as vibrations would only be expected by the pump station and injection well equipment. The pump station would be located on the creek side of the AWPF site, away from other land uses, and wells would either be underground or located sufficiently far from existing structures to minimize potential vibrations felt nearby.

c) Less than Significant Impact with Mitigation

Only noise generated by the Proposed Project during operation could permanently affect ambient noise levels, while construction noises only create temporary changes to noise levels. Operational noise from the Proposed Project would be generated by the pump station, and equipment at the injection wells and AWPF. The Proposed Project's pipelines would be underground, while its wells would either be underground or aboveground within a fenced area. If the exact location of the wells within the selected well sites is near a sensitive receptor, some mitigation measures may be necessary to reduce permanent noise impacts on the receptor. The AWPF and pump station would be located on the WWTP's site behind existing walls and away from sensitive receptors. As a result, noises generated by operation of the Proposed Project would be dampened, and impacts to ambient noise levels would be less than significant.

e, f) No Impact

The Proposed Project would not be located near an airport or private airstrips. It would therefore not be constructed within an airport land use plan or within two miles of an airport or airstrip. As a result, the Proposed Project would not expose people to excessive noise levels associated with an airport or airstrip. There would be no impact.

3.13 POPULATION AND HOUSING

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

The Proposed Project would expand CVWD's infrastructure to allow for groundwater recharge with advanced treated water. Population and housing could be affected by a project either directly, such as through construction or demolition of housing, or job creation or loss that results in shifts to where populations live. Population can also be indirectly affected by a project if the project expands services resulting in increased desirability of an area for housing. The Proposed Project would create a new water supply in the area, but would not construct or demolish housing or businesses.

a, b, c) No Impact

The Proposed Project would contribute towards CVWD's goal to reduce its reliance on imported water. While the Proposed Project would create a new water supply and support groundwater management, water produced by the Proposed Project would not be used to support new growth. Instead, it would be used to serve existing demands and demands already planned for by the City of Carpinteria in its General Plan/Local Coastal Land Use Plan and by CVWD in its 2015 UWMP. As a result, there would be no impact to Population and Housing, either directly or indirectly, and it would not result in the need to construct replacement housing elsewhere or induce population growth.

3.14 PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Discussion

The Carpinteria-Summerland Fire Protection District provides fire protection services within the Study Area, including the portion of the Proposed Project in the City of Carpinteria and in the unincorporated County. There is one fire station

located within the Study Area on Walnut Avenue between Carpinteria Avenue and 8th Street. The Carpinteria-Summerland Fire Protection District also has mutual aid agreements with the Ventura County and Santa Barbara County Fire Departments to provide additional fire protection services, as necessary. Additional assistance can be obtained through various state agencies such as the Office of Emergency Services (OES), CalFire, the State Fire Marshall, and the CDFW, and federal agencies including US Forest Service, National Park Service, Bureau of Land Management (BLM), and the Department of Defense. The Santa Barbara County Fire Department generally responds to wildland fires, or fires occurring in undeveloped areas commonly covered by heavily vegetation (City of Carpinteria 2003).

The Santa Barbara County Sheriff's Department provides law enforcement services, and the California Department of Highway Patrol provides traffic enforcement services within the Study Area (City of Carpinteria 2003).

Schools, both public and private institutions, at elementary, middle school, high school, and college levels are located in and around the Study Area. A list of schools within a quarter mile of the Proposed Project is provided in **Table 3-3**.

The City of Carpinteria Parks and Recreation Department is responsible for oversight of the City's Recreation Programs, parks, community pool, and Veteran's Memorial Building. There are several types of recreation-oriented open space including public parks, natural areas, pedestrian, equestrian, and bicycle trails, and coastal access and beaches. The City's parks and recreation facilities are planned as a network interconnected by a trail system for pedestrians and bicycles. The Carpinteria Community Pool is located within the Study Area on the corner of Carpinteria Avenue and Palm Avenue. Parks and recreation facilities located within proximity (0.25 mile) to the Study Area include Tomol Interpretive Play Area, Carpinteria Garden Park, El Carro Park, and Franklin Creek Park.

a) Less than Significant Impact

The Proposed Project would not change existing demand for public services (e.g., fire and police protection, schools, parks) because population growth would not result from construction of the Proposed Project (see *Section 3.13 Population and Housing*). In addition, the operation and maintenance requirements for the Proposed Project would be minimal, and therefore would not substantially increase the need for new staff from any of public protection services entities (e.g., police and fire). Because implementation of the Proposed Project would not change the demand for any of the public services, it would not require additional equipment or resources for those public service providers. The Proposed Project is not anticipated to significantly impact public services.

3.15 RECREATION

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

There are a number of parks and recreation areas located in the vicinity of the Proposed Project. The City of Carpinteria's Parks and Recreation Department is responsible for eleven parks within the City's boundaries. Of these parks, nine are located within 0.5-mile of the Proposed Project (City of Carpinteria, 2003; City of Carpinteria, 2018):

- *Carpinteria Creek Park*: approximately 1 acre, located adjacent to both Carpinteria Creek Park and a bike path. This park is approximately 0.5 miles north east of the AWPF.
- *Memorial Park*: approximately 2 acres in size, and a potential monitoring well site, 0.4 miles west of the conveyance pipelines. Located off Santa Ynez Avenue, it contains play equipment, lawns, barbeques, and picnic areas.
- *Salt Marsh Nature Park*: approximately 7 acres and 0.5 miles west of the Proposed Project. Salt Marsh Nature Park is a salt wetland offering walking trails, tours, and interpretive signage. Migrating birds travel to and through this park, and additional use restrictions are in place, including a prohibition on dogs and bicycles at this park.
- *Tar Pits Park*: approximately 9 acres, located approximately 0.3 miles from the AWPF. Tar Pits Park is currently accessible only by foot or bicycle, and provides beach access and hiking.
- *Heath Ranch Park*: approximately 2 acres, and 0.25 miles west of Well Site #6, on Eucalyptus Lane and Chaparral Drive. This park is also a City of Carpinteria Historical Landmark as it is home to the ruins of the adobe home build by Russell Health, a prominent member of the community in the 1850s.
- *El Carro Park*: approximately 8 acres and located at El Carro Lane between Casitas Pass Road and Linden Avenue. This park is between 0.10 and 0.15 miles east of Well Sites #1, 2, and 3, and is a potential monitoring well site. It is home to a variety of recreational and sports fields, a playground, restrooms, barbeques, and picnic areas.
- *Franklin Creek Park*: just over 1 acre in size, and running north-south along the western bank of Franklin Creek between Meadowview Lane and El Carro Lane and bounded by the creek and Sterling Avenue to the east and west. Well Site #5 would be located in Franklin Creek Park, if selected. It is across Franklin Creek from Well Site #4 and catty-corner (across Meadowview Lane) from Well Site #6. Franklin Creek Park is a passive recreation area that contains swings.
- *Tomol Interpretive Play Area*: this small play area is located approximately 0.1 miles from the Southern Potential Pipeline Alignment, 0.25 miles from the AWPF, and 0.12 miles from the Primary Pipeline Alignment.
- *Carpinteria Garden Park*: approximately 1-acre community garden in downtown Carpinteria, located approximately 0.3 miles from the WWTP, and 0.1 miles from the conveyance pipeline. Contains 104 raised beds available to interested community members, as well as a fruit tree orchard and Chumash foraging garden.

The City Parks and Recreation Department is also responsible for the Carpinteria Community Pool, located at the corner of Carpinteria Avenue and Palm Avenue. In addition, a State park is located within 0.5-mile of the Proposed Project. Carpinteria State Beach, including its picnic areas, campgrounds, and lawns, are located approximately 20 meters south of the WWTP site, on the other side of the railroad tracks. This State Beach is approximately 1 mile long and visited by over 840,000 people annually, with heaviest use in the summer months (California State Parks, 2009).

a, b) No Impact

The Proposed Project would construct an AWPF, conveyance and backwash pipelines, pump station, injection wells, and outfall modifications. It would not include construction of any recreational or park facilities and improvements that would encourage increased use of such facilities. As such the Proposed Project would not increase the use of existing

neighborhood and regional parks or other recreational facilities nor does it include recreational facilities or require the construction or expansion of recreational facilities. Therefore, there is no impact.

3.16 TRANSPORTATION/TRAFFIC

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?	☐	☒	☐	☐
b) Conflict with applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☒	☐	☐

Discussion

Transportation in Santa Barbara County is planned through the Santa Barbara County Association of Governments (SBCAG) in a regional effort. *Fast Forward 2040: Regional Transportation Plan and Sustainable Communities Strategy (RTP)* was adopted by the SBCAG Policy Board on August 17, 2017. The RTP, including its Sustainable Communities Strategy (SCS), is a long-range planning document that defines how the region plans to invest in the transportation system over a 20-year period based on regional goals, multi-modal transportation needs for people and goods, and estimates of available funding to provide a balanced approach to addressing long-term regional needs.

The City's General Plan/Local Coastal Land Use Plan provides information regarding circulation and transportation planning for the City of Carpinteria. Existing arterial streets, or high-capacity urban roadways that deliver traffic from collector roads to freeways and between urban center, within the Study Area include Linden Avenue and Carpinteria Avenue. Linden Avenue runs through downtown Carpinteria from the coast to the north end of the City and crosses Carpinteria Avenue, which runs in an east-west direction along the central business district. Existing collector streets, roadways that connect local streets to arterial street, within the Study Area include El Carro Lane, Ogan Road, and 8th Street.

Per the City's General Plan/Local Coastal Land Use Plan, projects contributing peak hour trips to intersections that operate at an estimated future level of service (LOS) that is better than a LOS C shall be found consistent with City policies. If the change in V/C (volume/capacity) ratio is greater than 0.20 for an intersection operating at LOS A or 0.15 for an intersection operating at LOS B. A project must not result in a change of V/C ratio of greater than 0.10 for intersections operating at an estimated LOS C, or result in a contribution of more than 15 peak hour trips for LOS D, 10 peak hour trips for LOS E, or 5 peak hour trips for LOS F.

The City's General Plan/Local Coastal Land Use Plan depicts bikeway facilities within the City. Carpinteria Avenue is designated as a State Bikeway Route. Linden Avenue, north of Highway 101, is designated as a Class III Bikeway, and south of Highway 101 as a Class II bikeway. A portion of 8th Street within the Study Area is designated as a Class III Bikeway.

The County's Comprehensive Plan Circulation Element (Santa Barbara County, 2014) provides guidance for determining consistency of projects with applicable circulation and land use policies. The only road in the unincorporated county that is adjacent to the Study Area is State Highway 192 (Foothill Road), which runs along the northern boundary of Well Site #6. This road generally meets the classification of a two-lane expressway. In the Study Area, Foothill Road is a 2-lane major road without grade separation at intersections. The County's Comprehensive Plan provides a policy capacity of average daily trips (ADT) of 16,000 in urban areas and 11,000 in rural areas for two-lane expressways. Consistency with the County's Comprehensive Plan's Circulation Element requires that projects do not contribute ADTs where estimated future volume exceeds the policy capacity. If estimated future volume exceeds policy capacity, but the project contributes ADTs less than or equal to 2% of remaining capacity or 40 ADTs, whichever is greater, the project would be consistent with the Comprehensive Plan. Similarly, if the estimated future volume exceeds acceptable capacity but not design capacity, and a project does not contribute more than 25 ADTs, it would be consistent with the Plan. Where estimated future volume exceeds design capacity, projects must not contribute more than 10 ADTs to be consistent with the Comprehensive Plan.

a, b) Less than Significant with Mitigation

Given that the Proposed Project would primarily be located in roadway ROWs, construction activities could potentially impact traffic and transportation patterns during construction. Impacts would vary based upon the location of the individual segments and corresponding roadways that would be impacted. **Table 2-3** in *Section 2 Project Description* shows each potential pipeline alignment and provides an anticipated construction time during which each segment would potentially be impacted, assuming that construction takes place at an average rate of 150 linear feet per day.

South of Highway 101, Linden Avenue is the main roadway that runs through Carpinteria's downtown area. Carpinteria Avenue is the only continuous street running through the City on the south side of Highway 101 and is the primary roadway through the City's central business district. The proposed pipeline alignments would likely follow local streets to the south of Highway 101 to avoid construction-related traffic impacts on Linden and Carpinteria Avenues, to the extent practicable. There would be a small pipeline segment located on Carpinteria Avenue from Eugenia Place and Maple Avenue. However, final selection of the pipeline alignments may change and could result in significant traffic impacts along Linden and Carpinteria Avenues, both of which are high-traffic, arterial roadways. County roads are not anticipated to be impacted by the Proposed Project because they are likely to only be used to transport materials to

and from staging and construction areas. No excavation is anticipated within roadways in the unincorporated portion of the Study Area.

Alternative transportation facilities are located throughout the Study Area. The Santa Barbara Metropolitan Transit District (MTD) provides public transit services within the City of Carpinteria. There are two bus routes within the Study Area; Route 36 which runs along both Linden and Carpinteria Avenues, and Route 20 which runs along Carpinteria Avenue. As described in *Section 3.15, Recreation*, there are bicycle lanes within the Study Area. The entire extent of Carpinteria Avenue is designated as a State Bikeway Route, while Linden Avenue is designated as a Class II and Class III Bikeway to the south and north of Highway 101, respectively. A portion of 8th Street within the Study Area is designated as a Class III Bikeway. The proposed pipeline alignments are located along these bus and bicycle routes and would likely be impacted during construction of the Proposed Project.

Although construction-related impacts would be temporary in nature, potentially significant impacts within the downtown would likely require mitigation to effectively manage traffic congestion and potential vehicle, public transportation, bicycle, and pedestrian detour routes. Operational impacts resulting from the Proposed Project are not anticipated.

c) No Impact

As discussed in *Section 3.8, Hazards and Hazardous Materials* and *Section 3.10 Land Use and Planning*, there are no airports within the Study Area. The closest airport, the Santa Barbara County Airport, is located approximately 18 miles to the west of the Study Area. Additionally, the Proposed Project does not include any aviation components or structures at heights that would potentially pose an aviation concern. Therefore, the Proposed Project would not result in a change in air traffic patterns and no impacts are anticipated.

d) Less than Significant with Mitigation

During construction, the Proposed Project could temporarily change the configuration of intersections and roadways within the Study Area. Specifically, lane detours or closures may be required where pipelines would be installed within roadway ROWs. Construction equipment and material would be staged temporarily on nearby vacant lots, within the construction zone or roads, or in the shoulder area of the roadway. Because lane detours or closures could increase conflicts between vehicles, bicyclists, and pedestrians, potential impacts are considered significant and would likely require mitigation.

e) Less than Significant with Mitigation

Construction activities for the Proposed Project would have temporary effects on traffic flow and lane configurations at specific intersections and roadways, which could similarly affect emergency vehicles in the Study Area. Construction activities could temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or in emergency evacuations. Mitigation to address how CVWD would communicate with emergency response agencies to develop emergency access strategies would likely be required to reduce potential impacts to less than significant levels.

f) Less than Significant with Mitigation

The Proposed Project involves construction and operation of an AWPF, conveyance and backwash pipelines, injection wells, and other related facilities. With the exception of the AWPF, the majority of the Proposed Project components would be located almost entirely underground. As such, once implemented, the Proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

During construction, however, the Proposed Project may temporarily change the provision of public transit, bicycle and/or pedestrian facilities within the Study Area. Specifically, lane and/or road closures would be required where

pipelines would be installed in roadway ROWs. Construction equipment and material would be staged temporarily either within the construction zone on roads or vacant parcels near the construction area which may impact transit stops, bicycle and/or pedestrian facilities. Because lane closures could increase potential conflicts between vehicles, bicyclists, and pedestrians, impacts would be considered potentially significant and would require mitigation. Mitigation measures, such as the use of flaggers, signage, cones, and other traffic control measures, would likely reduce potential impacts to less than significant.

3.17 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☒	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☒	☐	☐	☐

Discussion

The Carpinteria Valley area was historically populated by the Native American group known as the Chumash. The Chumash occupied the region from San Luis Obispo County to Malibu Canyon on the coast, and inland as far as the western edge of the San Joaquin Valley, and the four northern Channel Islands. There are many archaeological sites recorded within the Carpinteria Valley. Native American consultation for other projects within the area indicates the Study Area is considered highly sensitive to the Chumash and the tribe have expressed concerns that buried resources, including human burials, could potentially occur within the Study Area.

Assembly Bill (AB) 52 Consultation

AB 52 provides for local agencies to extend an invitation to Native American groups to engage in consultation on proposed private and public development projects to assure that potential impacts to Native American cultural resources are adequately addressed. More specifically, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by written notification including a brief description of the

proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section (Public Resources Code §21080.1).

a, b) Potentially Significant Impact

Construction of the Proposed Project would require grading and excavation, primarily within public ROWs and within previously developed or disturbed areas. Given the cultural sensitivity of the area, and with the grading and excavation activities that would occur during Proposed Project construction, there would be potential to uncover archeological, paleontological, or other significant tribal cultural resources during construction. Therefore, the Proposed Project could result in a potentially significant impact to tribal cultural resources.

A Cultural Resources Assessment would be required to further assess and document tribal cultural resources within the Study Area and potential impacts that may result from the Proposed Project. The project-specific Cultural Resources Assessment would include a search of the cultural resource records housed at the California Historical Resources Information System (CHRIS) to identify all previous cultural resources work and previously recorded cultural resources, including tribal resources, within a 0.5-mile radius of the Proposed Project and a survey of the Study Area to identify potential tribal cultural resources that have not been previously recorded. It is anticipated that mitigation measures would be required to reduce potential impacts to less than significant levels.

Additionally, Native American outreach and consultation with California Native American tribes in accordance with Assembly Bill (AB) 52 would be required. Impacts to cultural and tribal cultural resources are potentially significant.

3.18 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected				

	demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f)	Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Water Supply

Water supply services for the Study Area are provided by CVWD. CVWD owns and operates five municipal wells with a combined capacity to produce approximately 3.98 MGD, three potable water reservoirs (Shepard Mesa, Foothill, and Gobernador) with a combined storage capacity of 10.68 AF, and approximately 78 miles of distribution pipelines. CVWD's water supplies include groundwater from the Carpinteria Groundwater Basin and surface water from the Cachuma Project and State Water Project (SWP). CVWD does not currently serve recycled water.

Wastewater

Wastewater collection services for the Study Area are provided by Carpinteria Sanitary District (CSD). CSD's collection system includes approximately 40 miles of pipelines and a 2.5 MGD capacity WWTP. Treated water is disposed via an ocean outfall approximately 1,000 feet offshore. The WWTP treats to secondary standards and does not currently produce recycled water. CSD was a project partner in development of the *2016 Recycled Water Facilities Plan* and in the Proposed Project.

Stormwater

Stormwater quality and flooding potential in the Study Area is described in *Section 3.9 Hydrology and Water Quality*. The City of Carpinteria's stormwater system is regulated under the Phase II Municipal Separate Storm Sewer System (MS4) Permit, which was issued on February 5, 2013. The City of Carpinteria is responsible for maintenance of stormwater drainage facilities within the Study Area. CSD is responsible for maintenance of stormwater facilities on the WWTP site.

Solid Waste

Solid waste services for the Study Area are provided by E.J. Harrison and Sons, Inc. Solid waste is transported to the Gold Coast Material Recovery Facility and residual is ultimately deposited in the Simi Valley landfill approximately 26 miles south of the transfer station.

The City of Carpinteria Watershed Management Program was created in January 2010 to address water quality standards and covers aspects of solid waste such as street sweeping, recycling programs, and education.

Utilities

The Southern California Gas Company and Southern California Edison provide natural gas and electricity, respectively, within the Study Area.

a, b, e) Less than Significant Impact

Wastewater treated at the CSD's WWTP is currently treated at full secondary treatment level. The Proposed Project includes construction and operation of an AWPF at the WWTP site to treat secondary wastewater to full Title 22 recycled water requirements for subsurface application (groundwater replenishment). The Proposed Project would operate in full compliance with Title 22 regulations and updated WDRs issued by the Central Coast RWQCB and Division of Drinking Water (DDW). *Section 3.1.8, Hydrology and Water Quality* describes in detail the applicable Title 22 regulations established by the SWRCB, which will be adhered to as part of the Proposed Project. Impacts are anticipated to be less than significant.

The Proposed Project would provide advanced treatment of 1.0 MGD (and ultimately 1.5 MGD) of wastewater generated at the WWTP for injection of purified water into the groundwater basin to help enhance groundwater supply in the Study Area. The Proposed Project would be designed to serve existing and planned future water demands as established in City's *General Plan/Local Coastal Land Use Plan*, as well as the CVWD *2015 UWMP*. Given that the Proposed Project was designed to meet planned demands consistent with applicable General Plan/Local Coastal Land Use Plan and growth projections, and the Proposed Project itself includes construction of a new AWPF to help meet those demands, it is not anticipated that there would be inadequate capacity to serve the Proposed Project's projected wastewater treatment demands.

The wastewater produced at the CSD's WWTP is currently discharged to the Pacific Ocean via an ocean outfall. The WWTP has a capacity of 2.5 MGD and the average dry weather inflow to the plant is approximately 1.12 MGD. The AWPF would have an initial 1.0 MGD capacity and would be expanded to 1.5 MGD in the future. As such, there are sufficient wastewater supplies for the initial 1.0 MGD capacity. Additional wastewater supplies beyond what is currently available would be needed to fully utilize the AWPF upon completion of the future expansion to 1.5 MGD, though existing infrastructure exists to convey additional wastewater flows as available.

The Proposed Project is not anticipated to result in any compliance issues with respect to CSD's NPDES discharge permit issued by the Central Coast RWQCB, nor require or result in the construction of new or expanded water or wastewater treatment facilities other than those proposed by and evaluated within this IS. Sufficient wastewater supplies would be available to serve the initial AWPF capacity and impacts are anticipated to be less than significant.

c) Less than Significant Impact

Construction of pipelines and above-ground facilities for the Proposed Project could temporarily affect drainage during construction activities. As described in *Section 3.1.8 Hydrology and Water Quality*, there could be potential for above-ground facilities to affect drainage on a long-term basis, as the WWTP is located in the 100-year floodway (as of 2018 FIRM). However, a *Carpinteria Creek No-Rise Determination and Certification* (River Focus, 2018) has demonstrated that proposed development on the WWTP site would have no impact on the FEMA Regulatory Floodway or base flood elevation (BFE). Given its location adjacent to Carpinteria Creek, construction of the AWPF would require additional stormwater drainage facilities as part of the Proposed Project. Onsite stormwater design would be in compliance with the *2017 Stormwater Technical Guide for Low Impact Development* (Santa Barbara County, 2017). All stormwater generated onsite would be captured and treated at the WWTP. The Proposed Project would not result in the construction of new stormwater drainage facilities or expansion of existing facilities other than the facilities included as part of the Proposed Project. As such, significant impacts resulting from additional required storm drain facilities are not anticipated.

d) Less than Significant Impact

The Proposed Project would provide a supply of advanced treated wastewater for injection into the Carpinteria Groundwater Basin to enhance existing local groundwater supply and reduce ocean discharges. The Proposed Project would not require additional entitlements. Impacts are anticipated to be less than significant.

f, g) Less than Significant Impact

Solid waste disposal for the Proposed Project would occur during construction activities and would not impact landfills beyond their permitted capacities. The Proposed Project would be constructed and operated in compliance with all applicable solid waste regulations. Impacts related to solid waste are anticipated to be less than significant.

4. REPORT PREPARATION

4.1 Report Authors

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4.2 References

California Department of Conservation. 1989. Mineral Land Classification Map: Aggregate Resources and Active Mines of all Other Mineral Commodities. San Luis Obispo – Santa Barbara, P-C Region. Carpinteria Quadrangle. Plate 40.

California Department of Conservation. 2016. California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/

California Department of Conservation. 2018. Data Viewer – CGS Tsunami Inundation Zones. Accessed: 15 November 2018. Available: https://maps.conservation.ca.gov/cgs/DataViewer/

California Department of Transportation (CalTrans). 2010. Linden Avenue & Casitas Pass Road Interchanges Project Final Environmental Impact Report/ Finding of No Significant Impact (SCH#2008041158). July. Available: http://www.dot.ca.gov/dist05/projects/linden_casitas/index.htm

California Department of Toxic Substances Control (DTSC). 2018. EnviroStor. Accessed: 31 October 2018. Available: https://www.envirostor.dtsc.ca.gov/public/map/.

California Department of Water Resources (DWR). 2018. SGMA Basin Prioritization Dashboard – Draft 2018. Accessed: 6 November 2018. Available: https://gis.water.ca.gov/app/bp2018-dashboard/

California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment – Central Coast Region Report*. September 28. Available: http://www.climateassessment.ca.gov/regions/docs/20180928-CentralCoast.pdf

California State Parks. 2009. Carpinteria State Beach Interpretation Master Plan. Available: https://www.parks.ca.gov/pages/599/files/carpinteria_inter_mp.pdf

Carpinteria Valley Water District (CVWD). 2012. Carpinteria Groundwater Basin Hydrogeologic Update and Groundwater Model Project, Final Report. June. Available: http://www.cvwd.net/pdf/water_info/groundwater_reports/2012gwmodelreport.pdf

Carpinteria Valley Water District (CVWD). 2016a. 2015 Urban Water Management Plan. August. Available: http://cvwd.net/pdf/about/public_info/CVWD%20Final%20UWMP--9-22-2016-all.pdf

Carpinteria Valley Water District (CVWD). 2016b. Recycled Water Facilities Plan. April. Available: http://cvwd.net/pdf/about/public_info/CVWD%20RWFP_Final_04-22.pdf

City of Carpinteria. 1994. Guidelines for the Implementation of the California Environmental Quality Act of 1970, as Amended. January 24. http://www.carpinteria.ca.us/PDFs/cd_Environmental%20Review%20Guidelines.pdf

City of Carpinteria. 2003. General Plan / Local Coastal Land Use Plan & Environmental Impact Report. State Clearinghouse Number 1997121111. April. http://www.carpinteria.ca.us/PDFs/cd_General%20Plan.pdf

City of Carpinteria. 2018. "Park System". Parks & Recreation Department. Website. Accessed: 6 November 2018. Available: http://www.ci.carpinteria.ca.us/parks_rec/park_system.shtml

Ocean Protection Council. 2017. *Rising Seas in California: an Update on Sea-Level Rise Science*. April. Available: http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf

Santa Barbara County. 2010. Santa Barbara County Comprehensive Plan – Conservation Element. August. Available: http://longrange.sbcountyplanning.org/programs/genplanreformat/PDFdocs/Conservation.pdf

Santa Barbara County Air Pollution Control District (SBCAPCD). 2015. Environmental Review Guidelines for the Santa Barbara County Air Pollution Control District. Revised April 30.

Santa Barbara County Office of Emergency Management. 2018. Debris Flow Risk Areas. Updated 3 December 2018. Accessed: 6 November 2018. Available: https://sbcoem.maps.arcgis.com/apps/webappviewer/index.html?id=2dfd558de56f45158b4f67ef678a24e3

Santa Barbara County, Water Resources Division, Project Clean Water. 2017. Stormwater Technical Guide for Low Impact Development; Compliance with Stormwater Post-Construction Requirements in Santa Barbara County. 2nd Edition. February 3. Available: http://www.carpinteria.ca.us/PDFs/pw_Stormwater%20Technical%20Guide%202017.pdf

State Water Resource Control Board, Central Coast RWQCB. 2017. *Water Quality Control Plan for the Central Coast Basin*. September. Available: https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/docs2017/2017_basin_plan_r3_complete.pdf

State Water Resource Control Board. 2018a. GeoTracker Database. Accessed: 31 October 2018.Available: https://geotracker.waterboards.ca.gov/map/.

State Water Resource Control Board. 2018b. Groundwater Ambient Monitoring Assessment Database. Accessed: 16 November 2018. Available: http://geotracker.waterboards.ca.gov/gama/gamamap/public/

U.S. Department of Agriculture, Natural Resources Conservation Service. 2018. Web Soil Survey – Soil Map. Accessed: 15 November 2018. Available: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

U.S. Drought Monitor. 2018. "Map Archive: California". Accessed 6 November 2018. Available: https://droughtmonitor.unl.edu/Maps/MapArchive.aspx